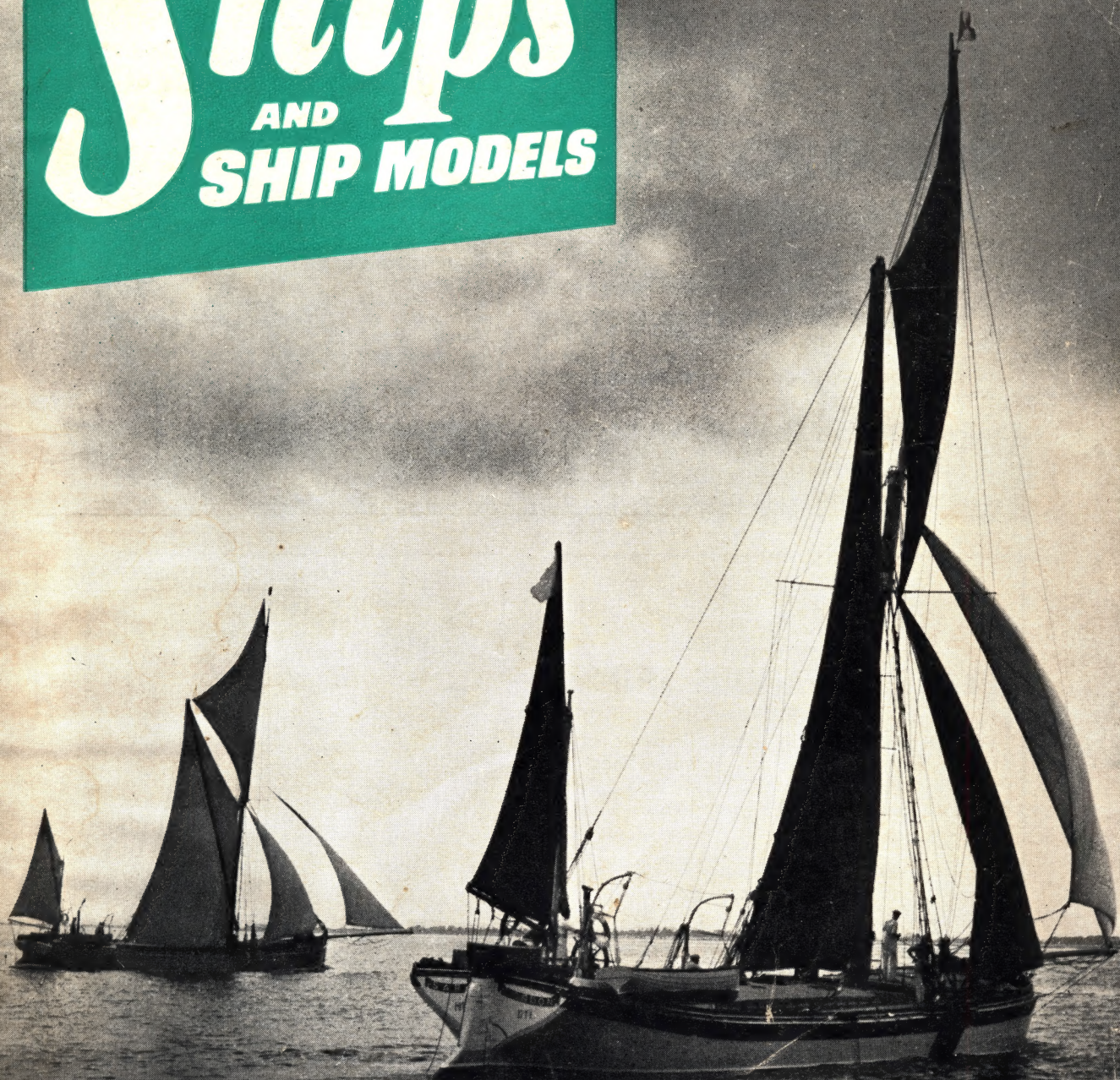


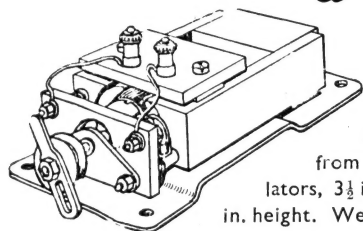
Ships **AND SHIP MODELS**



AUGUST 1955

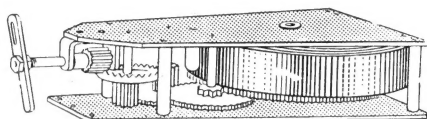
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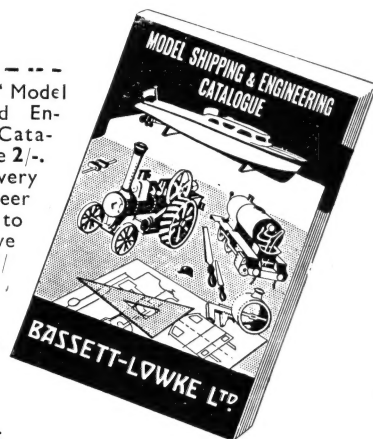
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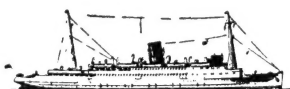
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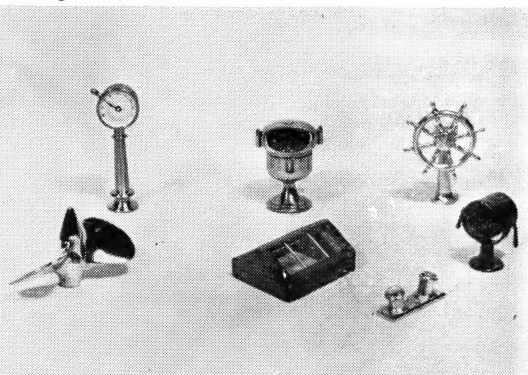
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Ships **AND SHIP MODELS**

INCORPORATING MODEL SHIPS & POWER BOATS

Vol. VIII. No. 91. AUGUST 1955

THE SHIP'S LOG

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Edward Bowness, A.I.N.A.

Advertisement Manager
T. C. Page

CONTENTS

<i>The Ship's Log</i>	253
<i>Hospital Ship for the North Atlantic</i>	254
<i>Topical Digest</i>	256
<i>Radio Regatta at Poole</i>	257
<i>Ships in the News</i>	258
<i>Fibre Glass for Model Hulls</i>	261
<i>A Model of the "Matthew"</i>	262
<i>Trade Topics</i>	263
<i>The Thames Barge Race</i>	264
<i>Pearl Fishing in Troubled Waters</i>	266
<i>The Coastal Tanker "Shell Welder"</i>	269
<i>Square Sails on the Round Pond</i>	272
<i>Book Reviews</i>	274
<i>10/- Hint</i>	274
<i>Naval Photograph Club</i>	275
<i>Fleet Reviews No. 20—Canadian Pacific Princess Ships</i>	276
<i>British Plastics Exhibition</i>	279
<i>Fun and Games with Radio Control</i>	280
<i>Mailboat</i>	282
<i>News from the Clubs</i>	284
<i>A Real Test of Yachts under Radio Control</i>	285

During August the event of the month for model-makers, irrespective of whether their interest is in ships, locomotives, or any of the other types of model, is undoubtedly THE MODEL ENGINEER Exhibition. We imagine that quite a number of our readers, whose interest is in ships rather than in models, have never visited this Exhibition. If they could be persuaded to do so we feel sure they would find it more interesting than they realise. The ship model section is usually the largest in the Exhibition and the exhibits include models of ships of all types and sizes. Some of the models are working models; the power boats, which include warships, liners and cargo vessels, as well as cabin cruisers and racing hydroplanes, being fitted with steam or internal combustion engines, or electric motors. A number of them are equipped with radio control, the control in some cases being applied to engine throttle as well as to steering. Radio control has also been extended to lowering a boat from davits, letting go the anchor, hoisting a flag, and similar operations—and actual demonstrations are usually in progress on the water tank, always a feature of the Exhibition. Models of sailing ships and historical ships are also to be seen, and quite a number of them have from time to time found their way into our national museums. In fact, it may safely be assumed that the best ship and other models, not built by professional model-makers, are first to be seen in our Exhibition. In these days there is a very lively interest in the miniature and scenic ship model, and some exquisite examples of these are always to be seen. We feel sure that our non-model-making readers would find a visit to the Exhibition very well worth while. Full particulars as to dates and hours will be found elsewhere in this issue.

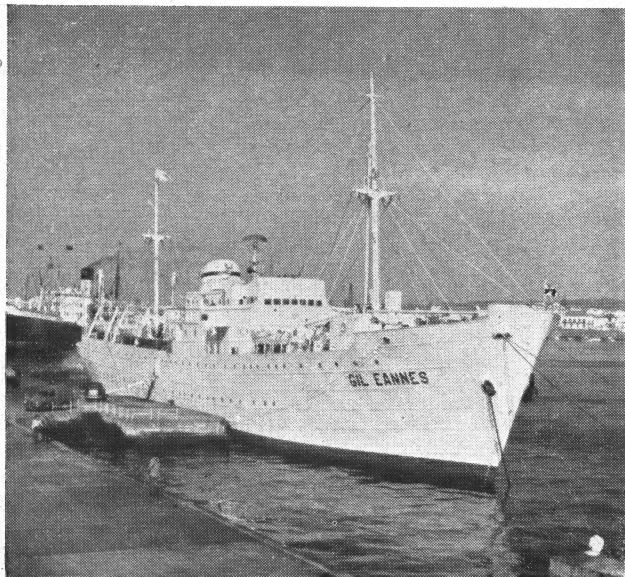
We are continually receiving letters from pre-war readers of SHIPS AND SHIP MODELS expressing their pleasure at having the magazine back again. Many new readers have also expressed their approval of the magazine, although, of course, there is the inevitable proportion of critics. Obviously, there is a real need for such a publication as ours and we are most anxious to make it bigger and better. To help us in this we would remind our readers that it is really *their* magazine. Its success depends on the support it receives from our readers. If, instead of buying it casually, they will place a firm order for it with their news-agent, introduce it to their friends, and publicise it whenever possible, its success is assured. Remember, *we* merely produce it: its success depends on how *you* support it.

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HOSPITAL SHIP FOR THE



The new "Gil Eannes," Portuguese hospital ship, alongside at Ponta Delgada in the Azores

I AM writing this in a comfortable cabin aboard what is, probably, the most unusual ship in the North Atlantic Ocean today. She is the special hospital-and-assistance ship *Gil Eannes*, a Portuguese designed, built, and financed vessel, fresh from the yards at Viana do Castelo in the beautiful province of Minho, and her function is to tend the fishermen of all nations who assemble on the Grand Banks off Newfoundland and, later, off Greenland, in pursuit of the humble cod. Portugal alone has nearly 5,000 fishermen in this industry, operating from seventy ships, of which only twenty-two are trawlers. Spain and France both have large trawler fleets, and Italy has a contingent. Newfoundland and Nova Scotia still send a few dory-fishing schooners to their own banks. All in all, upwards of 10,000 fishermen are working on the Banks from May until at least September each year. These are the men who are salting freshly-caught cod, not the crews of itinerant trawlers which fish briefly for fresh-fish cargoes. These come and go from Scotland, from Russia, from Grimsby, from the Faroes and from Scandinavia.

Only the Portuguese send a hospital-ship to look after the men, and the *Gil Eannes* is the first modern vessel built especially for this purpose. We sailed from Lisbon at midnight on Saturday, May 14th, and the large crowd of well-wishers on the quay included the Minister for the Navy, Admiral Amerigo Tomás,

and many prominent citizens. The *Gil Eannes* was launched as recently as March 20th. A vessel of some 4,000 gross tons, she is a twin-screw motorship of pleasing modern design, built by the Estaleiros Navais do Viana do Castelo, in a dry-dock at Viana, as is the case with all ships built there. Across in the next dock was the hand-line motor-ship *Sam Tiago*, typical of the modern Portuguese hand-line dory-carriers, a vessel of about a thousand tons, carrying a crew of 100 men, who fish from seventy dories. The *Sam Tiago* is a pretty model of a distinctive ship-type which, I think, would be an asset to the model-maker's collection. These Portuguese dory-carriers are among the most interesting and the most seaworthy of all Atlantic fishing-ships today. Of the total fleet of Portuguese fishermen on the Banks, forty-eight are hand-liners, twenty-five three- and four-masted schooners, one a barquentine, and the rest small motor-ships like the *Sam Tiago*.

The *Gil Eannes* is steaming across to the Banks to replace an older vessel of the same name, which the Portuguese have been operating as an assistance-ship (that is to say, a stores-carrier, mailman, salvage expert, dispenser of spare anchors, salt, fresh water, fuel oil and so forth) and hospital-ship combined, over the past quarter of a century. The idea of some sort of a hospital-ship on the Banks is not new. Thousands of men have fished there annually for the past four or, perhaps, five centuries, in little sailing-ships blown across by the east winds; of spring from the Basque Biscayan ports, from Bristol, from Ireland and from Portugal's fishing ports. The French had small schooners acting as hospital-ships many years ago, though these—I think there were two of them—were really dressing-posts.

The old *Gil Eannes* was the first ship in the trade to be fitted with a real hospital, with forty beds, operating rooms, X-rays and all the rest of it. The Portuguese, as part of their remarkable renaissance under the leadership of Prime Minister Salazar, were determined to bring the best possible facilities in every way to the men who did so much to contribute an important and cheap staple of the peninsula's food. Hence the *Gil Eannes*—both of them, the first a converted small German liner, the second specially designed and built for the job from truck to keelson. To judge by the way she is slipping steadily along through the water and the happy spirit prevailing everywhere on board, she is going to be a great success.

Some countries with large fishing contingents on the Banks have sent war vessels across from time to time, to look after their fishermen, and these offered such medical facilities as they had. None was a real hospital, or anything like it. Rough fishermen

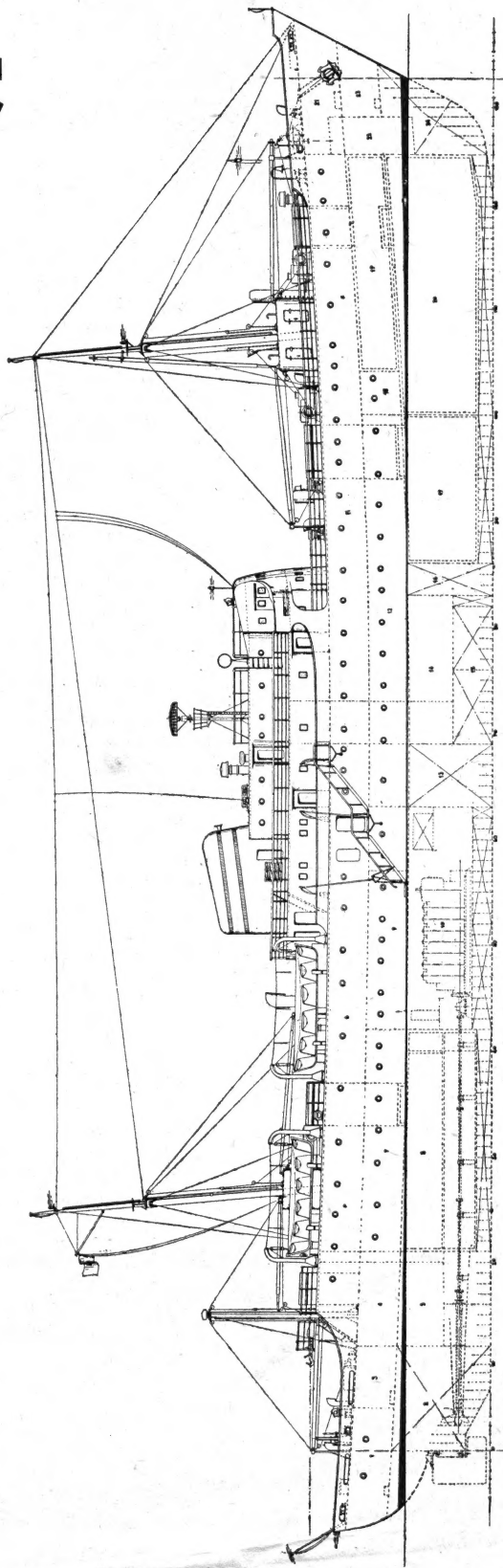
N. ATLANTIC

By Alan Villiers

distrusted what seemed to them, too often, the casual and inhuman methods of the Service doctors, and they had no great faith in naval vessels or naval life anyway. The former *Gil Eannes* was a naval transport when she first went to the Banks. She was captured during the first world war and taken as a Portuguese naval transport. But the fishing captains and crews looked down their noses at naval brass. Men cut off from the world themselves—they did not regard naval seafarers as in their world at all. When the *Gil Eannes* was taken over by their own organisation and command of her given to an old codfish schooner-man, why, that was different. She has done a splendid job ever since.

I spent a few weeks in the old *Gil Eannes* once, on the cod banks in Davis Straits. She was a good old steamer, though less than 3,000 tons. Her master was Captain J. P. Ramalheira, a member of one of Portugal's most famous deep-sea fishing families, which has been sending captains to the Banks from Aveiro for centuries. The same Captain Ramalheira has command of the new ship now and, with him, as special delegate of the Ministry of Marine, is Commander Tavares de Almeida, of the Portuguese Navy. Commander Tavares de Almeida has the responsible job of generally overseeing the conduct of the fisheries on the Banks by his own country's vessels and acting as judge in disputes among masters and fishermen, of which there are remarkably few. The naval officer acts as a sort of Captain of the Port for the Grand Banks, as far as Portugal's ships are concerned. In Portugal all harbour-masters are serving naval officers, and the tradition is continued on the Banks. This works well enough.

The most extraordinary job the old ship ever had was to lead and shepherd the sailing convoys of the Bank's fishermen during the war. About thirty or thirty-five schooners of varying speeds and sailing abilities had to make the crossings both eastwards and westwards together, at a time and by a route whereof both combatants were kept informed. More than once, the sudden apparition of the thirty-odd white-hulled, white-sailed sailing ships in the midst of a great steamer convoy on some hazy day was too much for sundry frigate and corvette captains, and they came near to being blown out of the water, But in fact not a schooner was lost in convoy, though two were sunk by submarine out of convoy, when they were fishing—not, however, by Allied submarines.



"Gil Eannes" has a very smart profile and would make a good prototype for a working model

It is to be hoped that this fine vessel is never called upon to undertake the leading of fishing convoys in time of war.

We are expecting to reach the Grand Banks within a week or less, making a call at Ponta Delgada on the way. The whole handlining and trawling fleet is already on the Banks, some of the trawlers being nearer to Greenland than Newfoundland. Every ship has radio telephony (though some may not have auxiliary power) and all keep in touch throughout the campaign. Two surgeons are already with the ships, one in a trawler and one in a handline motor-ship. In addition, thirty-five male nurses are spread among the fleet, one in each vessel with a complement of more than seventy men. All the ships will be in radio contact with this ship, which has even better hospital equipment than the old. She has two surgeons and a corps of male nurses, a 60-bed hospital, X-rays, up-to-date operating rooms, decontamination equipment, isolation wards—everything which could be of use. In addition, she has fresh vegetables, fresh water, fresh bait, mail and parcels for the ships. Patients are brought by dory which is slung inboard.

The ship herself is painted in purest white, the funnel being marked by a small red cross. This is the only special marking she carries, nor is there any outward indication of her mission of mercy. She looks like a fast fruiter, with raked cutwater and shapely cruiser-stern. Her superstructure is long and low, and her hospital accommodation is mainly in the 'tween decks, for'ard of 'midships. In emergency, she can be converted to provide 320 beds. She is 98.45 metres in length, with a beam of 13.72 metres. Her service speed, with a pair of Fairbanks Morse diesels, is 12.5 knots, and she can stay on the Banks for three or four months without refuelling. Fire-fighting equipment, radio, refrigeration, life-saving and navigation equipment are all of the most modern. The four large lifeboats are of steel. She has eight electric winches for handling stores, and electric winches for the boat-falls. Ventilation and heating have received special attention, and the accommodation throughout the ship is of the highest standard. Her complement is 72, and she has berths for five passengers. She cost some three-quarters of a million pounds.

The really remarkable thing about the new *Gil Eannes* is that she should exist at all. Portugal is a small country, and not rich. She has no funds for the manufacture of atom bombs. It is her unique contribution to a North Atlantic, beset by thoughts and preparations for the holocaust of modern war, that she should quietly offer a good hospital ship to look after fishermen and any other seafarers who may be in need, at no charge to them at all.

Nor is the *Gil Eannes* the only service the Portuguese have organised for fishermen. They have built fishermen's institutes in all the major fishing centres round their coasts and have established settlements of pleasant houses in which fishermen and their families live at very cheap rentals. They run a co-operative where fishermen's families can buy material for making clothes, groceries and other household necessities at low rates. They control marketing, to

ensure that the fishermen and the fishing-ship owners cannot be ruined by avoidable "ups and downs" in market prices. They have established schools, hospitals, creches, summer camps for the children. They have organised a system of professional fishing schools, to improve the standards of fishing skill. They check every fisherman's health before he goes to the Banks, and look after him when he is there.

But perhaps the most characteristic act the Portuguese fishing guild offers its fishermen is its special radio programmes for them. Instead of the usual yap-yap blah-blah sort of stuff and request records and so forth, the radio engineers and producers are required to go round, week after week, to the fishing villages to put the men's own families on the air for them. Often I have seen some brawny dark doryman, flailing at the codfish with a sharp-splitting knife, halt at his work and smile when he hears his own children speaking to him over the intervening three and a half thousand miles—only for a few seconds, but what a difference to him! The whole of the time the men are away these personal programmes go on.

TOPICAL DIGEST

New 22,000-ton Cunarder

The Cunard Steamship Company has placed an order with John Brown and Co. (Clydebank), builders of the "Queens," for a further 22,000-ton liner for their Canadian service. On her completion in 1957 Cunard will have a quartet of fast 22,000-ton ships for the run between the United Kingdom and Montreal. They will represent a total investment by Cunard in the Canadian trade since the war of some £20m.

The new ship will be named the "Sylvania," and basically will be of similar design to the "Saxonia," which made her maiden voyage last autumn. Each of the ships will have a service speed of 18-20 knots, enabling them to make the crossing to Montreal in six days, carrying nearly 1,000 passengers—800 in tourist class.

Napier "Deltic" Engines for Minesweeper

H.M.S. "Highburton," the first of the Coastal Minesweepers to be powered by Napier Deltic lightweight diesel engines, has been accepted by the Royal Navy from the builders, Messrs. J. I. Thornycroft & Co. Ltd., of Southampton.

The hull of this minesweeper is similar to those powered with other types of machinery, being 152 ft. in length and with a beam of nearly 29 ft. Her construction incorporates the use of aluminium, both for the framing and structural castings, the outer bottom being wood planked.

Thus, the hull is largely of non-magnetic material and a minimum of steel is used in the construction of the engines, important factors for minesweepers which have to deal with mines of all types, including magnetically-operated ones.

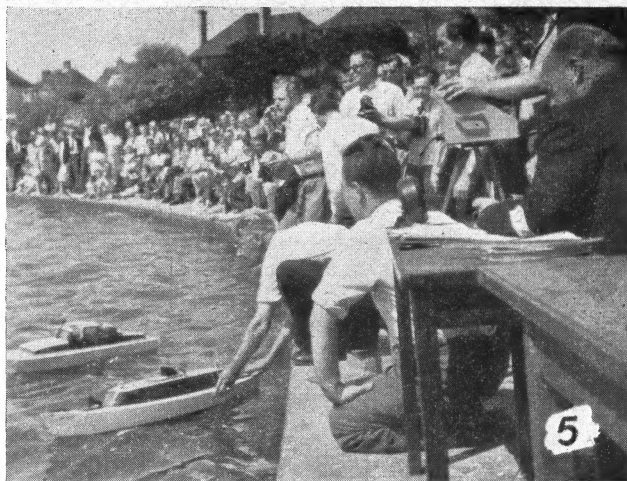
Paddle Boat's Last Trip

The last of the paddle cargo vessels operating in British waters, the "Lord Elgin," built in 1876, made her last service trip across the Solent recently before going to the breakers' yard.

Originally built as a pleasure steamer, she was converted for cargo-carrying over 40 years ago.

RADIO REGATTA AT POOLE

June 25-6



OWING to the keen interest in radio control shown by a number of the members of the Poole Model Yacht and Power Boat Club, Poole seems to be establishing itself as the popular venue for radio regattas in the South. This year the weekend chosen was June 25th and 26th and the entries came from widespread places in the South of England. The regatta was favoured with gloriously fine weather and the public showed considerable interest. A noticeable feature this year was the improved performance of the radio gear, especially in the way of greater reliability. The speed competition for power boats, Event 1, was won by Mr. W. S. Warne with his Daniel's-designed boat "Amazon" with its hard chine yacht-like hull. Event 2, the steering competition for power boats, was won by Mr. P. A. Cummins with his new Wavemaster cruiser "Trixie." The novelty competition for power boats, Event 3, was an interesting innovation. Competitors were asked to provide the most novel and varied programme within a space of seven minutes and quite a number of new operations were introduced. In Event 4, which was a handicap race for sailing yachts, Lt.-Col. C. E. Bowden was the winner with his 10 rater and thus secured the "Bravery" Challenge Cup. Sunday's activities began with Event 5, a steering competition for power boats, which was won by Mr. W. S. Warne, 152½ marks, closely followed by Mr. P. A. Cummins with 152. The "Hogg" Challenge Cup in Event 6, for radio controlled marbleheads, was won by Mr. Hogg himself.

In the "A" class, two lap race, Event 7, which was for the "Taplin" Challenge Cup, Mr. G. Honnest-Redlich won both heats, first against Col. Bowden, who suffered slight radio interference through an oversight in his preliminary adjustments, and then against Mr. Aldridge of Bristol, who was using an old hull which leaked and allowed moisture to get at his radio gear. Otherwise the boats were well matched and we would have had a good race. Mrs. Miller, the wife of the club president, presented the prizes. The commodore, Mr. R. P. Simpson, was O.O.D. on the first day, and Mr. Leslie S. Miller, the president, on the second day.

1. G. Honnest-Redlich and Col. Bowden get away to a good start with their "A" Class boats under radio control

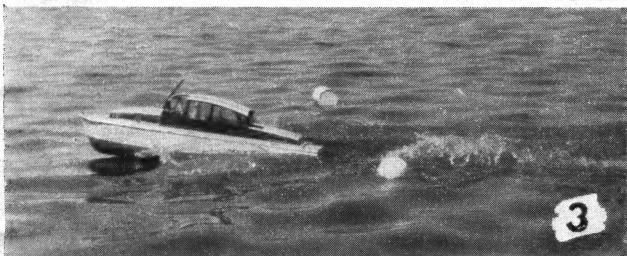
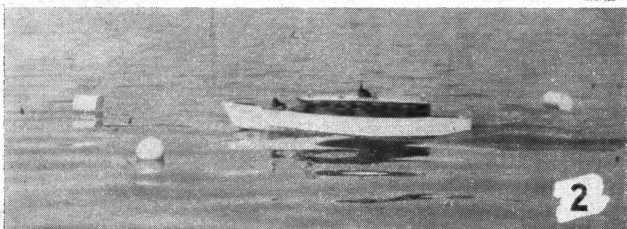
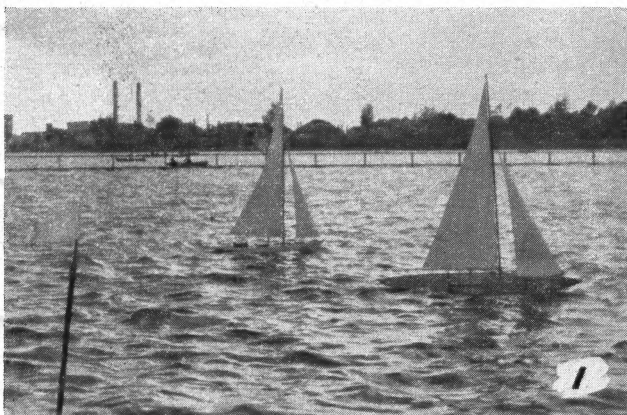
2. Mr. W. S. Warne's "Amazon" combines speed with easy wave formation

3. Max Coote's cruiser was a very close second to "Amazon" in the speed competition

4. Mr. W. S. Warne receives his prize from Mrs. Miller

5. The animated scene at the lake-side. Max Coote, Col. Taplin, G. Honnest-Redlich will be noticed, with Mr. Warne's mate in the foreground and Mr. Miller at the "mike" on the extreme right

6. Mrs. Miller presents G. Honnest-Redlich with his cup while Mr. W. L. Perrett the Poole secretary looks on



PRINCESS OF VANCOUVER

THIS vessel, one of the most noteworthy ferries yet built in the United Kingdom, was delivered by her builders, Alexander Stephen & Sons Ltd., on May 4th and was due to take up service between Vancouver and Nanaimo on June 21st. The ship, if judged by dimensions and not by gross tonnage, is the largest of the Canadian Pacific Railway Company's Pacific Coast fleet and is designed as a passenger, vehicular and train ferry. She will operate on this route both day and night, making three round trips per 24 hours. Her arrival will bring the number of round trips made by C.P.R. ships on this run up to eleven per day.

She is propelled by four 7-cylinder National type diesels, which drive twin screws through hydraulic couplings and gearing. Besides these, as an aid when berthing, the ship is fitted with a Voith-Schneider propeller, which is installed in an athwartships rectangular tunnel near the bow and driven by a 450 h.p. electric motor. One of the few multi-engined ships yet built in this country, this arrangement was chosen because of the rigorous schedule required, which calls for the ship being in service 362 days per year.

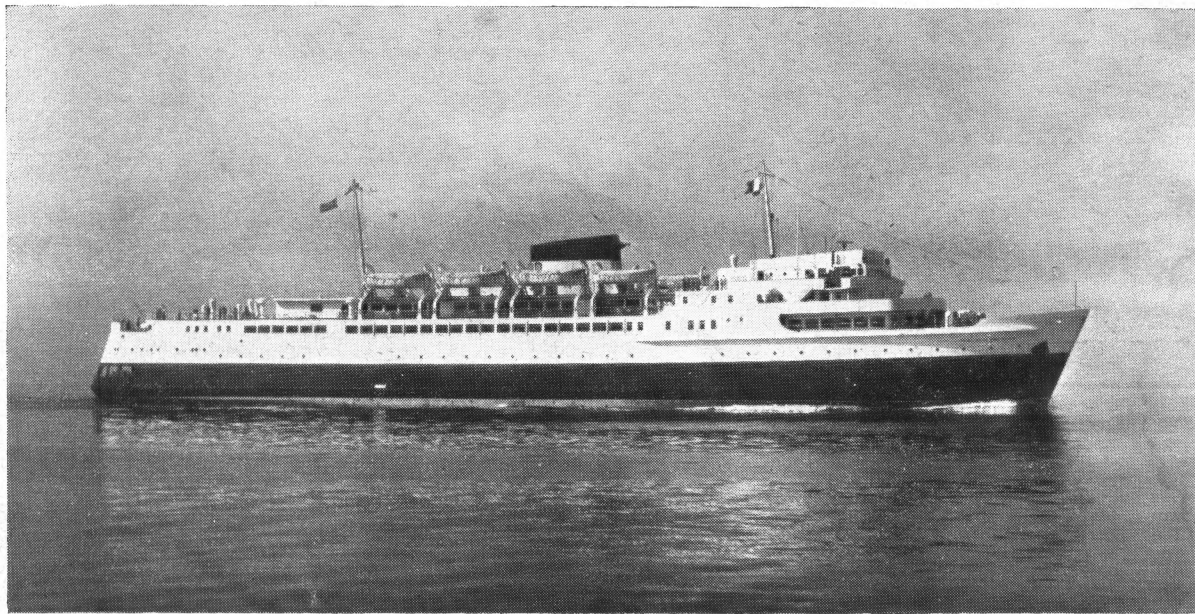
With all four engines working the vessel has a service speed of $15\frac{1}{2}$ knots, but 14 knots can be maintained with three only. Thus their periodic overhaul may be carried out without the need to withdraw the ship from service.

which may alternatively be carried are loaded over the stern from adjustable shore ramps at each terminal. A maximum of 850 passengers may also be carried. Their accommodation is on the upper and boat decks, where there is a series of lounges. Aft on the upper deck but ahead of the galley is a large coffee shop, while above this is a cocktail bar. All the officers' cabins are in the bridge structure and those for the crew beneath, under the train deck. In addition to the usual telegraph the ship is equipped with Westinghouse control, which will permit the master to manoeuvre the main engines and that for the bow propeller directly from the forward or after bridge positions.

ORE CARRIER DEVELOPMENTS

The development of large ore deposits outside the United States in such places as Labrador, Venezuela and Liberia, together with that of the bauxite mines in British and Dutch Guiana, Haiti and Jamaica, has

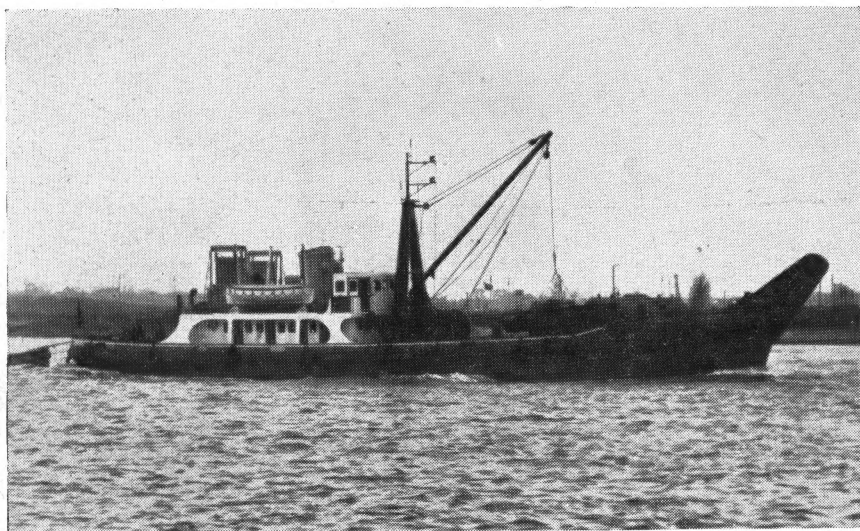
SHIPS



"Princess of Vancouver," a C.P.R. passenger, vehicular and train ferry of 5,554 tons gross, designed for service between Vancouver and Nanaimo

The *Princess of Vancouver* has a gross tonnage of 5,554, an overall length of 419 ft. 9 in., and a mld. breadth of 63 ft., while the load draft is 14 ft. 10 $\frac{1}{2}$ in. The main or train deck has four sets of rail tracks and can take twenty eight railway wagons of box type. These or the 150 cars

resulted in the building of many specially designed ore carriers. Until recent years and apart from Great Lakes traffic, most of the ore has been carried in older general purpose type tramps, although a few notable exceptions which come to mind are the fleets of the Ore S.S.



Left: The P.L.A. salvage vessel "Yantlet"

Below, upper: The tripod mast with its 7½ ton derrick and the winches at its base

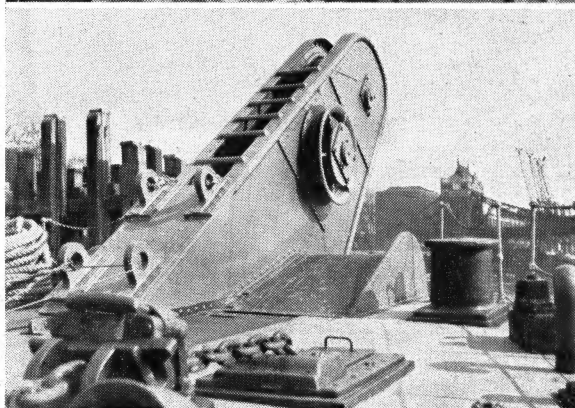
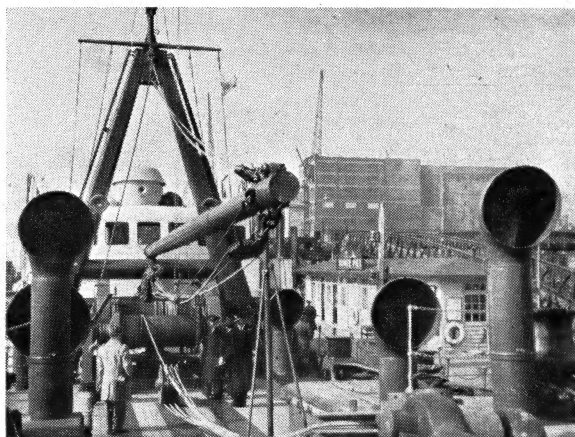
Below, lower: The massive horn at the bows and one of the heavy bollards are well shown in this photo

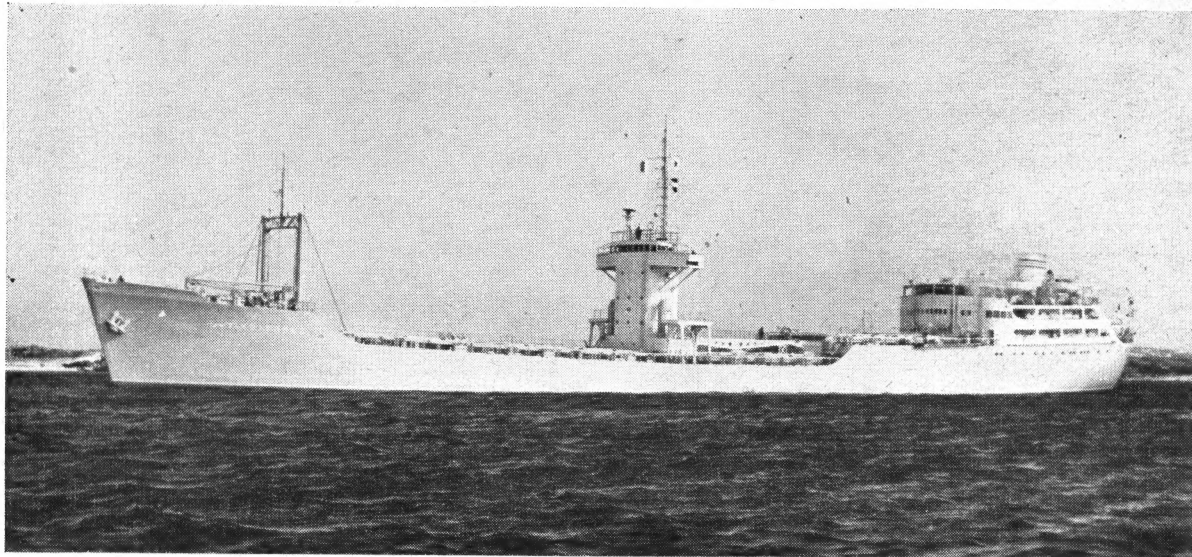
in the news

Corporation and Grangesberg-Oxelösund Co., the famous *Svealand* which is still in service after more than 30 years' service, and certain German and Australian vessels. Latterly, however, a number of specially designed handy size ore carriers have been built for British owners, notably the Orelia class (described in *SHIPS AND SHIP MODELS*, July, 1954). Those owned by overseas firms are usually of much greater size, the giants being the *Ore Chief* and two sister ships, owned by National Bulk Carriers Inc., which have a d.w. tonnage of 59,200.

As a result of the steadily expanding demand for ore-carrying tonnage a number of older oil tankers have been converted for this trade. One of these has been the m.s. *Walton*, formerly the Norwegian owned *Kollgrim*, 9,881 tons gross, which was altered at Sunderland. There she has just been followed by the s.s. *Stanfield*, a standard Norwegian type tanker of 14,500 tons d.w. built there in 1943. Bought by the Stanhope Steamship Co. Ltd. from Hunting & Son Ltd., as the *Thamesfield* earlier this year, she too, is to become a bulk ore carrier. As her bridge structure would obstruct the centre hold, this erection is being moved in one piece to a new position over the old pumproom, twenty five feet further aft. The whole structure will be burnt loose from the deck, raised a few inches on four 100-ton jacks and then pulled along slipways to its new location.

Many of the newer ore carriers are designed for a dual purpose, that of transporting ore or oil—in some cases both at once. The latter is carried in the two rows of L shaped tanks formed by the wing spaces and the





The modern ore carrier M.V. "Vindafford" of 12,360 tons d.w. Note the swing bridge from the poop to the bridge structure

double bottom, where there is a centreline division beneath the midship ore space. A noteworthy example of this type is the m.v. *Vindafford*, recently delivered by Gotaverken to the A/S Malmtransport, a subsidiary of the Norske Amerika Linje, Oslo. A single screw ship of 12,360 tons d.w., 489 ft. in overall length and 59 ft. in breadth, she is powered by a Gotaverken diesel engine of 5,050 b.h.p. which gives a speed of $13\frac{1}{2}$ knots.

She is of particularly striking and streamlined appearance, with a short high superstructure aft, on a poop which is carried some distance forward. The low main deck between this and the tall tower-like bridge is spanned by a most interesting variation from the familiar fore and aft gangway found on tankers. This on an ore carrier would obstruct the working of the large centre-line hatches, but this difficulty has been overcome by constructing it as a swing bridge with its base between the two hatches. Thus, when these are being worked it may be swung into an athwartship position. This is probably the first time such a scheme has been used on board a ship.

YANTLET

The Port of London Authority's new salvage vessel *Yantlet* is a sturdy-looking ship of 471 tons gross and has been built for them at a cost of £235,000 by William Simons & Co. Ltd., Renfrew. Designed for all types of salvage work, towage and wreck raising, she has an overall length of 144 ft. 6 in., a breadth of 32 ft. and a depth of 14 ft. 6 in. Her hull is of heavy riveted construction and carries a bipod mast amidships, on

which is mounted a $7\frac{1}{2}$ -ton derrick for lifting mooring-buoys, etc. Forward of this there is 30-ton stalled-pull electric-hydraulic winch and a twin $3\frac{3}{4}$ -ton electric warping and cable capstan, while aft at the stern there is another 3-ton electric winch. Loads of up to 120 tons may be raised over the bow-horn or the bow sides, and heavy bollards are fitted for side lifts. Another special feature of the design is the provision of deep ballast tanks forward and aft, which may be used for tipping the vessel.

The pumping equipment has a combined output of $12\frac{1}{2}$ tons per minute, while that for compressed air is 250 cu. ft. per minute. There is also an adequate fire-fighting installation. The vessel is propelled by a 4-cylinder Crossley diesel engine of 750 b.h.p. and this gives her a loaded speed of 10 knots. Two smaller diesels of the same make are also fitted to provide electric current. In her deckhouse there is accommodation for six officers, each in single berth cabins, as well as dining rooms for officers and men. Beneath, in the well appointed crew space, there are berths for ten men.

An unusual masculine element at the *Yantlet's* launching was the fact that the ceremony was performed by Admiral Hotham, a member of the P.L.A., and not, as is usual, by one of the opposite sex. The new vessel replaces an older steamer of the same name, one built at Paisley in 1916 and which, under the name of *Mollusc*, was bought by the Authority in 1923. Rather smaller than her successor, she had a length of 137.9 ft. and a gross tonnage of 379.

Our Cover Picture

For this month's cover we have used a photograph taken during the Thames Barge Race, an illustrated report of which is included in our pages. The picture shows well the easy grace of the spritsail barge and the flowing curves of the sails. "Sara," last year's winner is nearest the camera with "Sirdar" further away. "Sirdar" was the winner in both the Thames and the Medway races this year.

FIBRE GLASS FOR MODEL HULLS

Processed in a Female Mould

by *F. Critchett Chapman*

THE first article on fibre glass model hulls (SHIPS AND SHIP MODELS, December, 1954) described in very general terms this new process, and while mentioning that model hulls could be built up of plastic and fibre glass on a former or in a female mould only the building up on a former was described owing to limitations of space.

This article deals with the method as applied to the female mould. Such a mould can be made by hollowing out a solid block or a built up block of wood, or building such a mould of plaster of paris, or thin sheet metal, preferably aluminium, but not of copper or brass.

The hollowing out of a block of wood to the required shape will no doubt be a new and revolutionary experience for many of these modellers who have been accustomed to carving a block of wood to the required shape, or to those only thinking of or visualising such a process. The fact is the accustomed practice is reversed. And besides the entirely different technique involved, the modeller who uses templates but trusts almost entirely to his eye to keep him right when carving a former will be at a disadvantage when hollowing out a female mould because it would be wellnigh impossible for his eye to check the correctness of the shape in the mould. He would be much more dependent on the use of templates to make sure the shape of the mould is correct.

The hollowing out process would be simplified if the mould was made in two pieces which are joined together longitudinally along the centre line of the mould. In this way the two halves could be hollowed out separately and afterwards joined together, either by screwing or bolting at each end, and, if necessary, with a clamp amidships, so as to hold the two halves in perfect contact along the whole length of the centre line. This method would also enable the finished hull to be freed from the mould more easily than if the mould was made in one piece, as the screws or bolts holding the halves of the mould together could be removed and the halves freed from the finished hull separately. This is the only method which would allow of the model being built, if required, with a bulbous bow. The question of other "obstructions" is dealt with later.

The making of a plaster of paris female mould would present much the same difficulties as those just mentioned. The mould would have to be made slightly smaller than the size required and gradually enlarged to the correct shape by gentle scraping with a rounded blade and sand-papering. The frequent use of templates would be just as necessary here as in the case of a wood block.

Unless the modeller is highly skilled in metal working generally, and in metal beating and shaping in particular, the metal female mould is not advised. Metal female moulds are used extensively by the makers of motor-car bodies and numerous other articles, both large and small. It is found that the initial expense of these moulds is justified because: (1) being strong and durable the mould can be used again and again to mould a number of similar bodies; (2) the moulding of the plastic and fibre glass into these moulds is both easier and takes less time than building up on a former; and (3) perhaps most important of all, the outside of the bodies have a very high finish and require no further finishing. It is suggested that the easiest method is to make a former in the manner described in the previous article, and on that to make a laminated fibre glass female mould of sufficient thickness and strength to stand up to the pressure required when smoothing out the plastic and fibre glass and pressing out any air bubbles when building up the lamination or laminations inside the mould.

No matter which method of making the mould is adopted special care must be taken in the case of external "obstructions" on the model, such as propeller bossings or shaft tunnelling, which, if actually incorporated in the female mould shape, would render it quite impossible to take the finished model hull out of such a mould. One method of avoiding this difficulty would be: (1) to make the female mould without any of these obstructions; (2) to make up a separate former or formers on which to build up these obstructions—for example, the shaft tunnellings, as separate prefabricated units; and (3) bond these units into the hull after the hull has been taken out of the female mould, taking care to reinforce the joins by additional bonding inside the hull as mentioned in the previous article.

The technique of processing the plastic and fibre glass in the female mould is different from that when using a former, as in this case the hull is being built up inside the mould, and so the finish on the surface of the hull will depend on the finish on the surface in the mould. In any case the surface in the mould must be as highly finished and polished as possible and it is equally important that that surface must be treated with a release agent so that the finished hull may be released easily from the mould.

Fibre glass, either in the form of glass cloth or glass mat, can be used in conjunction with the plastic. Glass mat is different from glass cloth in that it consists of short lengths of glass filament mixed and lightly bonded together; glass cloth is, of course,

(Continued on page 268)



A MODEL OF

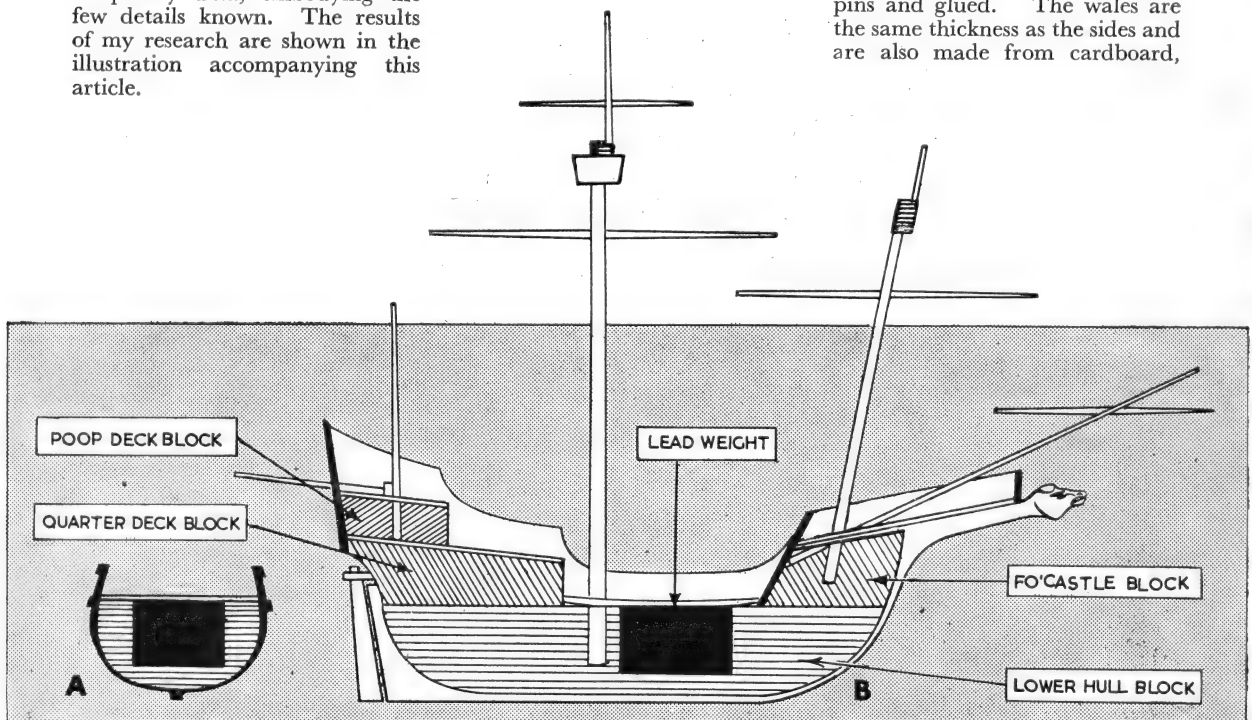
IN the year 1496, John Cabot and his three sons obtained letters patent from Henry VII and in May, 1497, they set sail from Bristol with a crew of 18 men, mainly English seamen, in the *Matthew*, and steering northward, then westward and then to southward, discovered on St. John's Day, June 24th, 1497, Nova Scotia.

The model illustrating this article is the *Matthew*, and was completed on November 21st, 1954, and took 220 hours of spare time, spread over two years.

There are very few details of the *Matthew* and so to reconstruct it one has to make a model based mainly on contemporary data, embodying the few details known. The results of my research are shown in the illustration accompanying this article.

The hull is based on an article on how to make a model of this ship which appeared in a contemporary magazine. The shapes of the blocks of wood forming the lower hull, fo'c'sle and quarter deck were correct and so were copied exactly, but the poop and sides had to be corrected. The three blocks of wood forming the upper hull are pinned and glued on to the lower hull block and the decks of the two blocks of wood forming the poop and quarter deck are covered with $\frac{1}{32}$ in. three-ply wood lined with a lino knife to represent the planking of the decks. This considerably improves the appearance. The poop is made from a piece of $\frac{1}{4}$ in. stripwood. In the waist there is also a piece of $\frac{1}{32}$ in. three-ply wood, lined as the poop and quarter decks, and raised at the ends to give a slight sheer. The fo'c'sle deck, which is also lined stem, keel, sternpost and rudder are made from $\frac{1}{8}$ in. three-ply wood, fixed in position with veneer pins and glued. The figurehead is an extension of the stem. There are three hatches, one each in the waist, fo'c'sle and after poop. They are made from $\frac{1}{8}$ in. three-ply wood, and glued in position.

To form the sides medium thickness cardboard was used, carefully cut to shape and fixed in position with small pins and glued. The wales are the same thickness as the sides and are also made from cardboard,



THE 'MATTHEW' By J. D. Wild

glued in position. The fore and main channels are made from $1/32$ in. three-ply wood and are fixed in position with thin pins and glued. The mizzen shrouds are held down with small eyelets made from thin wire and glued inside the hull, at the sides of the after poop deck.

To keep the centre of gravity as low as possible a portion of the area in the waist was hollowed out and lead melted into it.

The fore and mizzen masts and bowsprit are made from $3/32$ in. dowelling tapered down, and the mainmast is made from $1/8$ in. dowelling tapered down. The topmast is made from cane strip whittled down to $1/16$ in. dia. and tapered. The binding round the mainmast is thin brown cotton, glued in position and the bumpkin is cane strip whittled down to $3/64$ in. dia. and tapered. All the yards are made from cane strip and the mainmast top is made from thin cardboard, a circular base and a strip forming the sides, cut to give a slight outward tilt all round.

The rigging is made from thin cottons and twines of various diameters, brown for the running rigging and black for the standing rigging. The details were copied from a model of the *Santa Maria* which was constructed by Captain C. E. Terry. This ship made her famous voyage in 1492 and is thus contemporary with the *Matthew* and is also about the same size. The fact that the *Santa Maria* was Spanish did not matter as the rigging details were so similar. The deadeyes are made from red paper cut to shape and glued on. They are covered with clear varnish.

To secure the fore and main shrouds to the hull small holes were drilled in the correct places. The shrouds were cut to length, glued into their respective holes and round wedges, previously prepared, were glued in, thus tightening the shrouds and fixing them securely. When dry the wedges were trimmed level

with the hull. The foremast has three shrouds each side, the mainmast six shrouds each side and the mizzen and topmasts two shrouds each side.

The sails are made from lampshade vellum, with light brown lines crayoned on to represent the seams in the cloth. The forecourse has a yellow cross with a round circle in it and the maincourse has a St. George's cross. These crosses were painted on in watercolour and then smeared over with Durofix, which is transparent and waterproof. This seals them against the air. The two flags are made from paper, painted with watercolour and covered with Durofix. The foremast has a white pennant with a St. George's cross on it and the mainmast has a pennant with England and France quarterly on it.

The anchors are made from thin sheet copper cut to shape, the arms and shank being in one piece. For attaching the anchor cables very small rings were made from tinned wire. The stocks are made from $1/8$ in. three-ply wood, clear varnished, and the metal parts are painted black. The two anchors are $7/16$ in. long.

The colour scheme is as follows: Waterline and lower rudder, dark brown. Upper hull, upper stem and upper rudder, light brown. Sides of fo'c'sle and after poop, bright green. All wales are dark brown. Masts, yards, decks and channels, clear varnished.

The model represents a ship of the following dimensions:—

Keel: 52 ft. 6 in. Beam: 25 ft. Hold: 12 ft. Stem to stern post: 77 ft. 6 in. Rake forward: 22 ft. 6 in. Rake aft: 2 ft. 6 in. Tons burden: 157½.

The scale of the model is 20 ft. to the inch, which gives a length overall of 7 in.

For all gluing jobs I use Durofix, which dries quickly, is waterproof and transparent when dry.

TRADE TOPICS

We received recently a copy of the "Wolf Cub Book of Profitable Pleasure" published by the Wolf Electric Tools Ltd., Pioneer Works, Hanger Lane, London, W.5, price 5s. 6d. net. This is a book full of interest for both the model maker and the man who is handy at doing jobs about the house and garage. The first section is devoted to a description of the Wolf Cub range of tools and accessories by which the cut can be adapted to form a portable drilling machine, a grinder sander and polisher, a bench drill, saw or lathe, and also a bench sander and planer. The sections which follow show diagrams of joints and give hints and instructions on the innumerable repair and maintenance jobs about the house. Further sections describe how to make various odds and ends which range from simple brackets to elaborate furniture. There is a host of suggestions about making toys for the children and gifts for friends and, finally, a section on

model-making which includes a simple yacht and a galleon. A couple of pages on the various woods to use for particular purposes concludes what is a really useful little book. Bound in stiff paper covers and produced on good paper with excellent illustrations, it should prove a good investment for the hobbyist, the householder and the family man.

* * *

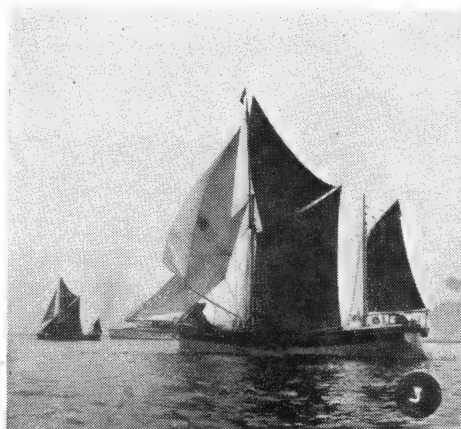
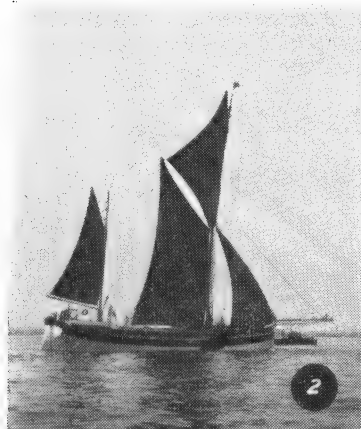
In our May issue we made reference to the new catalogue which Messrs. Bassett-Lowke Ltd. have recently issued. This is for model makers of all interests, but a separate leaflet has now been issued specially for ship modellers, in which all the items likely to be of use to them are included. This will be of the greatest interest to our model making readers and we would advise them to make early application for their copy.

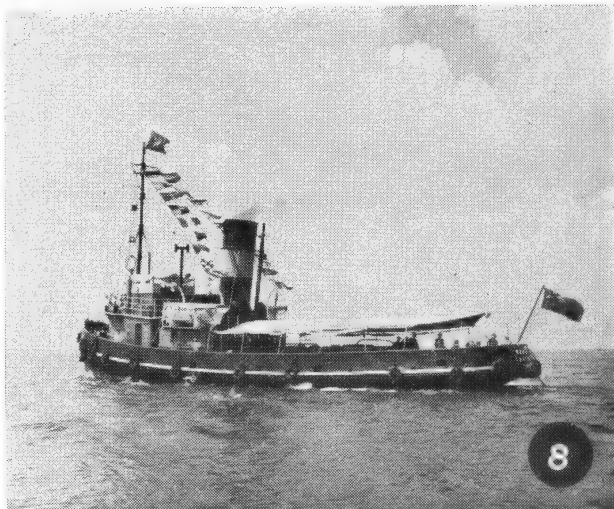


The Thames Barge Race

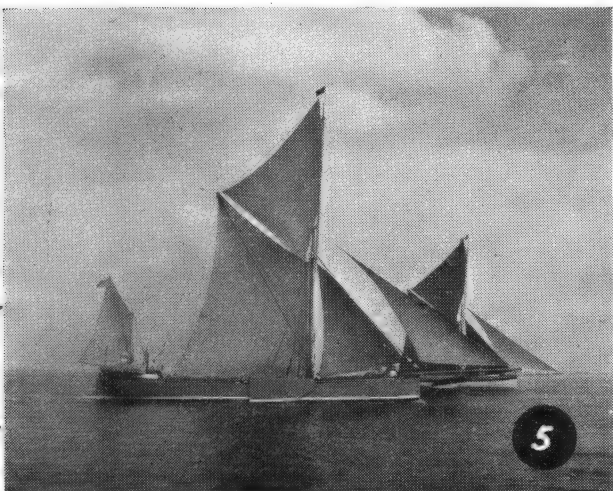
THIS year's race between the spritsail barges of the Thames estuary was sailed on Wednesday, June 15th. The entry was a little smaller than last year, there being only three in each class, *Sara*, *Cambria* and *Sirdar* in the Champion Bowsprit class, and *Dreadnought*, *Revival* and *Westmoreland* in the Restricted Staysail class. There was a little haze in the morning and not much wind, certainly not sufficient to give very exciting sailing. Everard's *Sara*, last year's winner, was first across the line, followed by *Westmoreland*, *Sirdar*, *Dreadnought*, *Revival* and *Cambria*, the latter being over two minutes after the gun. The westerly wind gave a good run to the North Oaze buoy and flying jibs on booms were being set soon after the barges had crossed the starting line. *Cambria* set her flying jib on a boom, and her jib, which was notable as having two tacks, was set on the bowsprit. After a good start *Sara* soon established herself in the lead, with *Sirdar* following, and *Cambria* in third place, she having made up something of what she had lost at the start. *Sara* rounded the North Oaze buoy about two and a half hours after the start, followed by *Sirdar* and *Cambria* at about five-minute intervals. The three restricted staysail class barges followed shortly afterwards, *Dreadnought* first, about ten minutes after *Cambria*, then *Westmoreland* six minutes later, with *Revival* following in about two minutes. The return trip involved tacking up the river and was consequently much slower. Soon *Sirdar* began to make up on *Sara* and although both ships were handled with consummate skill and were very equal in speed, *Sirdar* seemed to be a little faster when tacking, and by the time Southend was passed she was practically level with *Sara*. From then onwards either of them could have won the race, until ultimately *Sirdar* established herself in the lead and finally beat her rival by just over two minutes. This finish was especially interesting as in last year's race *Sirdar* won a similar due

1. "*Sara*" running with spinnaker set. Note staysail set on end of boom.
2. "*Cambria*" with her mule rig has a tonnage of 79 as compared with "*Sara*'s" 50.
3. "*Cambria*" with her spinnaker set. Note jib with two tacks.
4. "*Sirdar*" running before the wind. Her white sails reflect the sun.
5. "*Sirdar*" and "*Sara*" beating to windward close hauled.
6. The crowded decks of the "*Royal Sovereign*" which followed the race, as seen from the Everard tug.
7. "*Sara*" and "*Sirdar*" (nearest camera) on the port tack.
8. The Watkins' tug "*Kenia*" dressed for the occasion.
9. "*Sara*" makes a pleasing picture with her perfectly setting sails.





with *Memory* and thus finished second, *Sara* being the first home. This year *Sirdar* had a fine new coat of paint, salmon colour, and her sails were white. *Cambria*, in spite of her ketch rig with its big mizzen, lost time in beating up the river; apparently the wind was rather light for her. She finished the course nearly an hour after her two rivals and was actually one and a half minutes behind *Dreadnought*, the winner in the Restricted Staysail class. In this class, *Westmoreland* was second and *Revival* third. All three finished within eleven minutes, which was good work considering the course was about fifty miles long and the time about eight and a half hours. *Sirdar*, this year's winner, is one of the oldest barges in the river under sail, being fifty-seven years old. *Sara*, her rival, is fifty-three years old. There is keen rivalry between F. T. Everard and Sons Ltd., the owners of *Sara*, and the London and Rochester Trading Co. Ltd., who own *Sirdar*, and it is almost certain that there will be another race next year—at least between these two ships.





A "Zaruk"—the fastest of the dhow type

THIS is a tale about the Persian Gulf, pearl-fishing, a paddle-steamer, dhows, and a piratical Arab Nakhoda (captain). A few words concerning each in turn seems called for to set the scene.

The Persian Gulf is without doubt one of the most romantic and the hottest stretches of water in the world, moreover, here the wet and dry bulb thermometers often register similar readings. In practice, this means that life to a European sailor stationed for any length of time in these parts becomes a considerable burden.

The Arabs of the Persian Gulf have engaged in pearling for centuries, but the demand for pearls has rather fallen off, consequently the industry has now to some extent declined.

Big fleets of pearling-dhows under a leader of Sheikhly standing used to congregate on the pearling banks near Bahrein every year in the summer, supplies being sent out at intervals from the ports to feed and water the crews. The diving season lasts about three months. Summer is chosen for the work as then the sharks, which normally infest these shallow sea stretches, mostly clear out to deeper and cooler waters, and so it is safer to descend to the reef-beds that lie about 15 ft. below the surface. The divers go to the bottom naked, taking a knife for prizing-out the shells and a bag in which to put them. They can stay under water for two or three minutes, but in the end the work plays "Old Harry" with their lungs. They descend to the sea-bed by means of a stone-weighted rope, and signal to their attendant-craft by means of tugs on the rope.

All the shells are opened up on deck, but only one in a hundred is likely to contain a pearl of any value. The pearl dealers keep their best pearls wrapped up in red cloth; this is said to preserve their beauty, texture and colour.

The divers, some of whom are negroes, take advances of pay from their employers in the off-season, and in practice are little better than slaves.

The paddle-steamer concerned was one belonging to the Indian Government, and I was serving aboard her as navigating officer. She was a comfortable wooden ship of medium size, painted white and permanently stationed in the Persian Gulf as a despatch-vessel, under the immediate orders of the British political agent, who resided at Bushire. Her duties entailed courtesy visits to various ports in the Gulf, police work, and, in fact, any kind of service required by the agent. She was manned by British officers and a native crew and was armed with two three-pounders on platforms over the paddle-wheels; she also carried an armed platoon of Indian Sikh infantry to act as marines.

In appearance this fascinating old vessel resembled more than anything else a modern edition of Noah's Ark, and she squatted easily in the water like a large fat Aylesbury duck. Lack of speed was her greatest drawback, any fast-sailing dhow with a strong breeze

PEARL FISHING WATERS . . .

blowing from astern could run away from her with ease—a serious handicap to the ship when engaged on police work.

Dhows to seamen who have served in the East are about the most interesting craft afloat, partly because in design and build they remain practically the same now as they were in the days of Abraham, and partly because they haunt the coasts of Arabia, which has always been and still is, in most parts, a land of wonder, intrigue and mystery. Their crews are courageous and colourful individualists; furthermore all Arabs, both nomads and sailors, are natural aristocrats with a religion that fits their qualities, whether these be good or evil, and some of them are shockingly bad. However, whether vicious or virtuous according to Western standards, I have never come across a true-blooded Arab of either sex or age having either a vulgar face or figure.

The best dhows are built by Arabs living along the coasts of E. Africa, where suitable timber is available, and by Persianised Arabs domiciled on the northern shores of the Persian Gulf, who import their ship-building materials from India. There are numerous classes of dhows. Ignoring the smaller types, the remainder can be divided into three classes. Firstly the "Baghalas," large ocean-going vessels with richly carved sterns; they can best be seen in the terminal ports of Basra, Zanzibar and Bombay. Secondly, the "Zambuks," two-masted traders, and most numerous in the Red Sea and Gulf of Aden. Thirdly, the "Zaruks," racy craft with long sheers, pointed at both ends, and fitted with one raking mast only. These are the fastest sailers of all dhows and being shallow-draughted vessels suitable for inshore work and

slipping through coral-reefs, are the ones highly favoured by Red Sea slave-traders, pearl fishers, Muscat gun-runners and the piratical fraternity of Arabs, of whom there are still plenty in existence to take advantage of any favourable opportunity for plunder that presents itself. The most evil-minded coastal Arabs are to be found along the shores of South Persia, the Trucial Oman and around the island of Maseira, situated in the Indian Ocean, off the unfrequented rascal coast of S.E. Arabia. The inhabitants of this neighbourhood are extremely poverty-stricken, sullen and hostile to a degree. The crew of any vessel wrecked in this area unless able and determined to defend itself with fire-arms would have a very dim prospect of survival.

The Arab skipper mentioned in the opening paragraph was one Rashid Ali by name and an unmitigated rascal of the deepest dye. The fact that he possessed such an unsavoury character was not

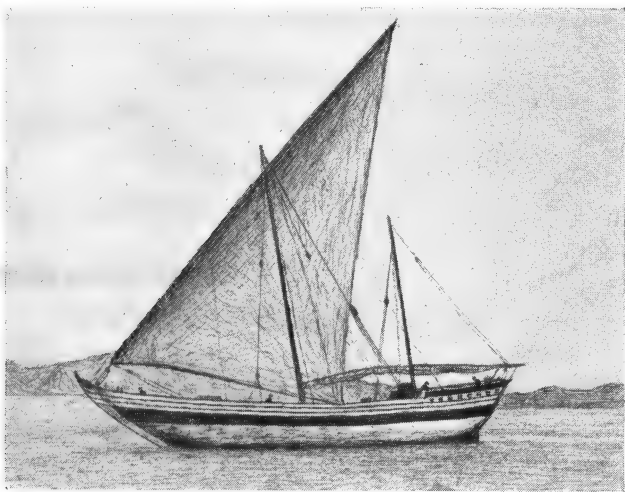
type dhow with great skill, and always carried in his leather belt a rounded fearsome-looking dagger, and a Mauser pistol purchased from gunrunners in Muscat; moreover, he could handle both these weapons with rapidity and accuracy. The lines that follow tell of Rashid Ali's last and final attempt to "get rich quick" at any cost.

One hot steamy day my old ship lay at anchor off our headquarters at Bushire, awaiting orders for the next mission. She had recently made a routine visit to the port of Basra, where as usual her freshwater tanks had been filled with water from the Shatt-al-Arab river, not a particularly desirable practice, but one that was unavoidable at the time. This water was evidently contaminated with disease germs, for shortly afterwards cholera broke out amongst the native members of our crew. Every morning at sunrise for 10 days we had got under-weight and steamed out to sea beyond the 3-mile limit to bury some victim of this dread complaint, but now the epidemic had "fizzled-out" and we were ready again for duty, although somewhat short-handed.

About 3.00 p.m. a message was received from ashore to the effect that a telegram had been cabled from Bahrein containing details of a particularly vicious and murderous attack that had been made on an isolated pearling-craft near that port by Rashid Ali's dhow and her crew, and that we were to put to sea as soon as possible and try to intercept this piratical craft and arrest all aboard her. Apparently Rashid Ali, whilst cruising in the southern waters of the Gulf on the look-out for a prize worthy of his attentions, had sighted a pearling-dhow returning alone to her base, with a week's valuable haul of pearls on board, collected from the pearling fleet. Being well to windward of his intended victim, he was able to bear down on her, range-up alongside and board the craft. Whereupon he and his crew of cut-throats had rushed the vessel and acting on the old principle that "dead men tell no tales" had proceeded to shoot or knife everyone on board, at least so they thought, and then had thrown the bodies overboard. Having effectively stripped their prize of everything of value including a choice assortment of pearls, they transferred all the booty to their own dhow, but before finally leaving the "pearler" they set her on fire, with the idea of thoroughly destroying all traces of their misdeeds. Believing they had now completed an exceedingly neat job, the pirates, with a fair wind from the S.E. in their favour, set a course for their home-port, a coastal village situated about one hundred miles east of Bushire on the southern shores of Persia. This time, however, Rashid Ali's usual luck partly deserted him, for one of the "pearler's" crew had escaped his murderous activities. This resourceful individual during the general "mix-up" aboard his craft had slipped quietly over the stern and hung on to the rudder, well out of sight, until the pirates had taken their departure. He then climbed aboard his burning ship again, collected some loose timber and constructed a small raft. When his vessel finally sunk, he launched the raft and clung to it for a few hours, until luckily picked up by a passing dhow

IN TROUBLED

By Lt.-Comdr. R. C. Bickley, O.B.E.



The "Victor of the Storms," a Zambuk—type of Arab trading dhow

perhaps entirely his own fault. He had been reared in an atmosphere of evil-doing, for both his father and grandfather before him had been accomplished pirates and looters, both well known in the Gulf.

Rashid Ali was typical of his ancestry. Striking in appearance, wiry, bearded and medium in height. He possessed a long aristocratic nose, a pair of flashing evasive eyes, a swarthy complexion and clothed himself in a flowing brown burnous of quality. He could manoeuvre his speedy "Zaruk"—

which shortly afterwards landed him at Bahrein. Here, he at once informed the local authorities what had happened, and the identity of the culprits involved, hence the instructions we had received from the agent at Bushire. Needless to say, these orders to attempt the capture of the pirates were received by "all hands" with joy, especially after the doleful series of sea-burials we had recently had to carry out. Instructions were immediately sent to the engine room to raise steam to the limit of what the ship's boilers would stand. A hurried conference was held on the vessel's bridge to decide the best course to adopt, both to find and capture the offending dhow and her motley crew. Anything in the way of a chase had to be avoided owing to the fact that under the most favourable conditions we could only steam about eight or nine knots per hour.

Finally, it was decided to steam down the coast as far as Rashid Ali's village, then "lay-to" in the offing and intercept the home-coming dhow at the end of her passage across the Gulf. This procedure was adopted. At 5.00 p.m. we hoisted the anchor, got under-weigh and steamed eastwards parallel to the shore, arriving at the desired position about an hour before sunrise, when the engines were stopped and an extra look-out posted aloft to keep a sharp eye on the horizon to the southward. The two three-pounder guns were swung out ready for action, and an armed party of Sikhs detailed for boat work if required.

Shortly after the sun had topped the eastern horizon, the look-out man reported a sail in sight, hull down, about six miles away to the S.E. "This will be the craft we're looking for," we thought, a surmise that proved to be right. Our old paddles were at once set in motion thundering into the water at top speed, and we nosed our way forward as close in to the shore as possible, in an endeavour to place our ship between the on-coming dhow and the beach. It was not long, however, before Rashid Ali had spotted our ship and her intentions. He accordingly altered course and headed straight for the sandy beach.

We attempted to counter this move by opening fire with the two small guns, at a range of a couple of miles, dropping the shells between the dhow and the shore, hoping that this procedure would frighten the miscreants sufficiently to make them "heave-to." But they were not to be intimidated in this manner. On they went and ran their craft ashore; hopped over the side and bolted inland. Then it was noticed, when the dhow was within a hundred yards of grounding, that a box or bundle of some kind had been quietly dropped over the side, valuable booty, no doubt, which they intended to retrieve at a later date. My ship now moved in to within a quarter of a mile of the stranded dhow, covering her and the beach-head nearby with her guns, and I was sent away in a cutter manned by an armed crew to search the vessel.

Approaching cautiously, not knowing what act of treachery might be in store, we ran alongside and carried out a thorough search, but no pearls or anything of real value were found, but there were a

number of stale bloodstains to be seen here and there, visible evidence that some member of the crew had probably been wounded, whilst the "pearler" was being attacked. Having finished our detective work, we set fire to the dhow fore and aft and returned to our ship.

The pirate leader and his bandits had escaped us, but they had lost their ship, one of the fastest sailing dhows in the Gulf.

We heard afterwards that Rashid Ali and his crew had all been rounded-up by the Persian authorities, placed up against the wall of a mud fort and shot. I trust this was the case, but having had long experience of how things are done and manipulated in these untamed parts of the world, I should be much surprised if Rashid Ali failed in the endeavours he is certain to have made to buy his way out of troubles that had befallen him.

The market value of the pearls he had accumulated during his successful raid on the Bahrein pearling fleet was considerable. Money talks everywhere, and even more loudly in the East than it does in the West.

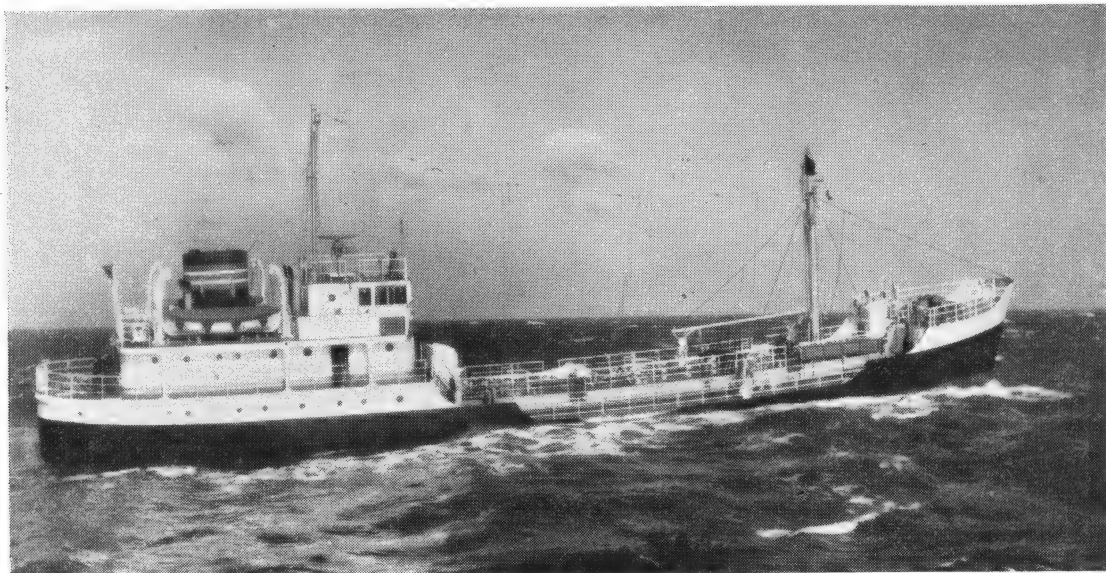
Fibre Glass For Model Hulls

(Continued from page 261)

continuous filaments woven into cloth. Glass mat is perhaps most generally used when processing in female moulds.

The operation consists in first applying a coating of plastic to the inside of the mould and allowing it to set hard. This first coating of plastic is most important as it prevents the fibres of glass mat from protruding through the finished surface. When this first coating is set apply another coating of plastic to the surface of the mould and quickly apply a piece of glass mat cut to the correct shape of the mould, applying more plastic with a jabbing movement with a fairly stiff brush. Further laminations can be added in the same manner depending on the size of the model and the strength required. Air bubbles should be worked out from the last layer by placing cellophane paper over that layer and starting at the centre and working to the edges with a pressing or jabbing movement of the brush.

The finish on the inside of a female mould made hull will, of necessity, be much rougher than that made on a former. This inside finish may not be so important with models of sailing craft, but it is important in the case of mechanically powered working models where the layout, general appearance and finish of the inside should be on a par with the finish of the exterior. (It is understood that judges in competitions take particular notice of the inside work and finish of mechanically-powered models and award marks accordingly.) To secure a better inside finish a layer of glass cloth—as opposed to mat—should be applied to the final lamination (see last paragraph). It will probably be found that no application of plastic is necessary for this layer of glass cloth, as sufficient plastic will be soaked up from the previous layer. When this layer of glass cloth is used the air bubbles should then be worked out as mentioned above.



The "Shell Welder" running trials in heavy weather

The Coastal Tanker 'Shell Welder'

by Laurence Dunn

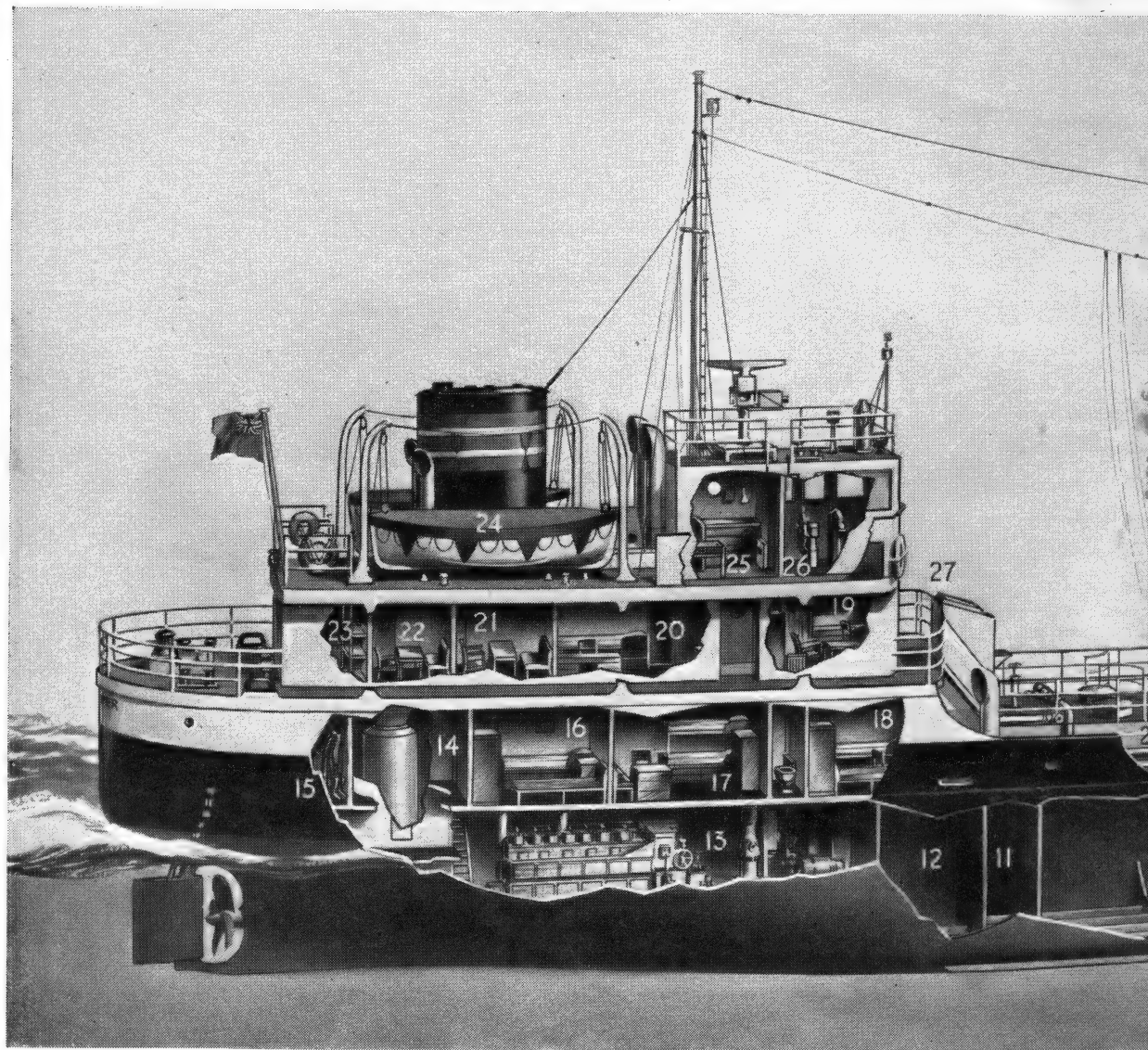
THIS vessel, which was completed last March by Clelands (Successors) Ltd., Wallsend-on-Tyne, is the first and largest of a group of ten vessels ordered from various United Kingdom shipyards by Shell-Mex and B.P. Ltd. She is intended for both coasting and Continental voyages, and an interesting point is that her cargo tanks are being made the subject of experiments in anti-corrosive measures. In these, three different methods have been introduced, namely enamel, cathodic protection and metal spraying.

Built of steel to Lloyd's Register requirements, the *Shell Welder* is of partly welded construction and has longitudinal framing at deck and bottom. The length b.p. is 165 ft., breadth mld. 29 ft., and depth mld. 11 ft. 3 in. Her tonnage figures are 583 dead-weight, 569 gross and 202 net. She is powered by a Crossley six-cylinder directly-reversible, two-stroke type engine developing 570 b.h.p. and capable of



View looking forward over the trunk deck

giving a loaded service speed of $9\frac{3}{4}$ knots. The other diesel auxiliaries in the engine room are also of Crossley manufacture. The three largest, each of 90 b.h.p., are used to drive the generator, compressors and general service pump. On deck the capstan and windlass are electrically driven while a



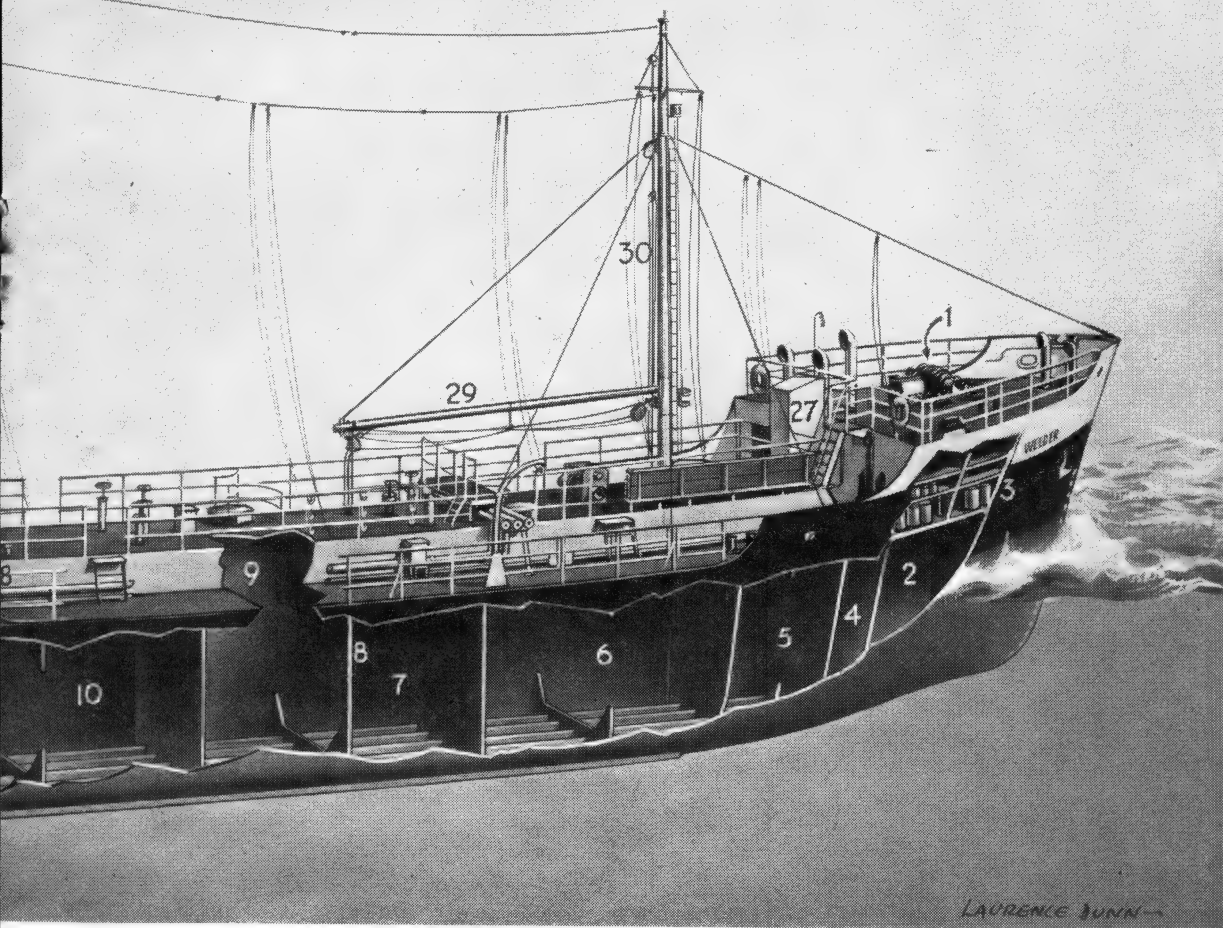
KEY

- | | |
|---|-------------------------------------|
| 1. Electric Windlass | 17. Three Seamen |
| 2. Deep Tank | 18. 2nd Engineer |
| 3. Paint Store | 19. Captain |
| 4. Cofferdam | 20. Mate |
| 5. No. 1 Cargo Hold | 21. Seamen's Mess |
| 6. No. 2 Cargo Hold | 22. Firemen's Mess |
| 7. No. 3 Cargo Hold | 23. Galley Store |
| 8. Web Framing | 24. 17 ft. Aluminium Life-boat |
| 9. Centreline Bulkhead | 25. Chartroom (with stairway down) |
| 10. No. 4 Cargo Hold | 26. Wheelhouse |
| 11. Cofferdam | 27. Pumproom Entrance |
| 12. Oil Bunkers at sides (pumproom at centre) | 28. Cargo Lines |
| 13. Machinery Space | 29. Two-Ton Derrick |
| 14. Boiler Space | 30. Steel Foremast (wooden topmast) |
| 15. Oilskin Locker | |
| 16. Bosun | |

hand-operated winch serves the two-ton derrick.

A centreline bulkhead extends the length of the cargo space, which comprises four pairs of tanks. The main pumproom is aft of these and flanked on each side by oil-bunker tanks. In it there are two Stothert & Pitt horizontal displacement pumps, each of 100 tons capacity per hour and driven by an electric motor in the engine room. Forward there is another pumproom with one fifty-ton cargo pump to serve the foremost tanks. There is also a ballast pump in the forecabin on the port side.

The *Shell Welder* has a crew of fifteen and is provided with two 17 ft. aluminium rowing lifeboats. The captain's cabin is in the forward end of the poop structure on the starboard side, while that for the chief engineer is to port. Further aft on that side are the saloon, pantry and galley. The mate's cabin and the seamen's and firemen's mess rooms are in corresponding positions on the starboard side.



On the deck beneath (main deck) are the cabins for the 2nd officer and 2nd and 3rd engineers. Aft of these on the starboard side there is accommodation for the bosun and three seamen, while to port accommodation is provided for the three greasers, cook and mess man. Amidships and forward the decks are of bare steel but aft, over the accommodation and wheelhouse they are sheathed with Oregon pine. As regards navigational aids the vessel is equipped with echo sounder, radar, radio telephone and loud hailer.

The funnel is painted black, with (reading from the centre) red, yellow and green bands. The topsides of the hull are black, over red boot-topping, and the masts a light brown. The decks, where painted, are red, the sides of the trunk-deck light grey and the superstructure white.

The fleet of Shell-Mex & B.P. Ltd. comprises some 40 units which are employed on coastal and estuarial

services, as well as for harbour bunkering and handle the petroleum products of the Shell, B.P. and Eagle groups, for which the company is the United Kingdom distributing organisation.

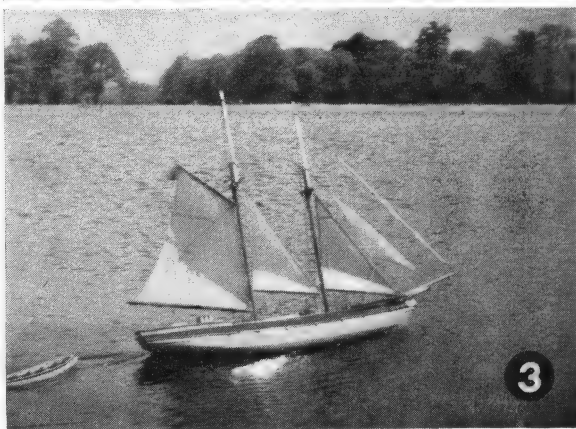
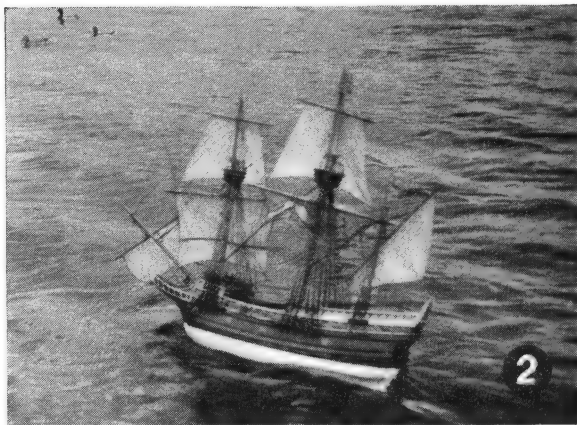
The nine vessels which they still have on order are of the estuarial type, and the first of these, the *B.P. Hauler* (300 tons d.w.), was recently launched by James Pollock, Sons & Co. Ltd., of Faversham. She is primarily designed for service between refineries on the Thames and Medway and the company's depots at Faversham and Aylesford. In this vessel the bridge will be amidships, although in the others this structure will be placed aft. Of the remaining ships, known as the "Severn" type, one will be built at Faversham and the rest by W. J. Yarwood & Sons Ltd., Northwich, Clelands (Successors) Ltd., Wallsend and Cook, Welton & Gemmell Ltd., Beverley. All nine, it is interesting to note, will be fitted with Voith-Schneider propellers.

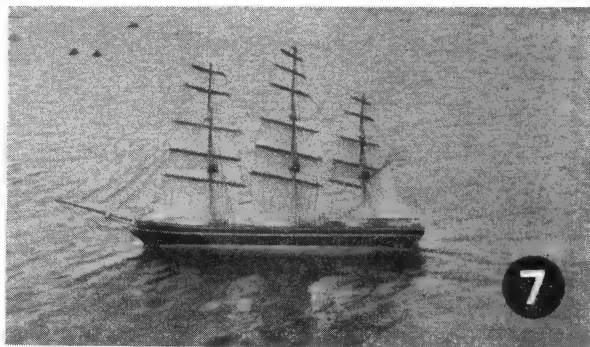


SQUARE SAILS ON THE ROUND POND

A NEW type of spectacle for Londoners was seen on the Round Pond, Kensington, on Sunday, June 12th, when the Thames Shiplovers' Society held its fifth annual Sailing Prototype Rally. Previous rallies have been held at Hove in co-operation with the Hove Model Yacht Club but it was felt that a more central venue was called for in view of the widespread interest in the rally, which has grown through the years into an important annual event. The entries numbered nearly thirty and included nine square rigged ships, six spritsail barges and a variety of fore-and-aft rigged models. The spritsail barges, which have been built specially for the rally, are all made to half inch scale, so that they can race together on equal terms. The fore-and-aft class included a couple of top-sail schooners. There was also a Formosa raft with a fully battened sail and a Ceylon outrigger canoe.

This year the weather was stormy with occasional showers and the wind was far too strong and gusty for normal sailing with prototype models. Most of the square riggers had to snug down to topsails, and all but one of the barges furled their topsails and flying jibs. Perhaps the most interesting of the square-rigged ships was the Levantine merchant ship of the 16th century, built by Mr. Peter Wood. This, when shortened down, sailed remarkably well. The five feet four-mast barque *Star of the South*, and her slightly smaller sister *Flying Cloud*, both looked very well on the water. Their builder, Mr. Kenneth Williams, was secretary for the rally. *Cutty Sark* by Mr. P. G. Gould was a fine looking model and sailed quite fast. The trophy for the best square-rigger was won by Mr. C. L. Robinson with his clipper model *Caliph*. This is a beautiful model, built accurately to scale. Although she has no false keel she sailed very well when shortened down. Mr. J. Starkey of Southend won the medal awarded for realism and craftsmanship in the barge section with his fine model *Janice*, but the winner of the barge race was Mr. G. Fitzgerald with his model





Mavourneen. Owing to the wide variety of types and sizes it was impossible to arrange races in the other sections, but medals were awarded for realism and craftsmanship and for appearance on the water and general sailing ability. Mr. D. C. Eyles came first in the fore-and-aft class with his schooner *Valkyrie*, with the Misses Philipp as runners-up with their nicely proportioned little schooner *Dido*. Mr. G. A. Bailey's model of a bamboo raft was awarded the prize in the section for native craft. The judging was in the hands of Lt. Cmdr. J. H. Craine (Jason) and Mr. E. Bowness, the Editor of this magazine. Mr. Frank G. G. Carr, C.B.E., Director of the National Maritime Museum and a Vice President of the Thames Society, kindly consented to act as Commodore for the occasion, and with a very happy speech presented the prizes at the conclusion of the rally.

1. The start of the race for spritsail barges.
2. Peter M. Woods' 16th century ship sails very well.
3. D. C. Eyles' schooner "Valkyrie" under reduced canvas.
4. J. Starkey's "Janice" with H. D. Aldridge's "Alice" had their topsails lowered.
5. H. D. Aldridge's "Alice" make a picture under full sail
6. Kenneth Williams' fine 4m. barque "Star of the South."
7. P. G. Gould's "Cutty Sark" was fast and looked well. Both these models were reduced to upper and lower topsails.
8. "Janice" sails on after colliding with "Mavourneen."
9. The Commodore presents the trophy for square-rigged models to C. L. Robinson for his model of "Caliph."



Nautical Book Reviews

ONCE UPON A TIDE

By Hervey Benham. Published by George G. Harrap & Co. Ltd., London, Toronto, Wellington and Sydney. 18s. net.

This book cannot be better described than by a quotation from the note on the dust cover: "Once upon a Tide is a colourful picture of the ships and seamen of our east coast seaboard as they were in the two centuries which lie just beyond the reach of memory—the period from Defoe to Dickens." The period is indeed a colourful one, full of adventure and romance, and the ships are equally interesting. Sail was the only means of propulsion and, owing to the conditions prevailing, speed was generally highly important. This produced a fascinating variety of types, which included the long slender beach yawls with their huge lugsails, the three-masted luggers, the fast revenue cutters with their long bowsprits and tall masts, the sturdy fishing smacks, and the Thames bawleys, not to mention the lovely fruit schooners and the collier cat-barks and brigs. The frontispiece shows the Mersea oyster smack *Boadicea*, which, being built in 1808 and presumably still afloat, is probably the oldest craft in full commission in Britain. The story of the people concerned and of the times in which they lived is told in considerable detail and in a most interesting style, as might be expected when the author is a professional journalist, has an intense love of ships and the sea, is a capable historian, and is a native of the area about which he writes. His earlier books, "The Last Stronghold of Sail" and "Down Tops!" give some indication of what to expect, and the present book more than comes up to expectations. Smuggling was practised on a large scale throughout the period covered by the book and the story makes very fascinating reading. During times of peace public sympathy was very much on the side of the smugglers, especially as many of them were driven to the practice by the extreme poverty in which they lived and by the heavy taxation and harsh laws of the times. The book is very well illustrated, with reproductions of old paintings and photographs and quite a number of most interesting line drawings by Roger Finch. Mr. Finch has also done the end papers, one showing a dozen of the different types of rig referred to in the book, with maps, and the other showing the local fishing gear—all of particular value for the ship model-maker. The book will appeal to the lover of ships and the sea, to the historian, and to the model-maker alike, and we can recommend it with every confidence.

BULLETIN No. 18

International Radio Controlled Models Society

This issue of the I.R.C.M.S. Bulletin is again full of interest for the ship model-maker. Mr. P. A. Cummins, who is well known in power boat circles, contributes two articles, one on "Multi Channel Radio Control" and the other "Some Notes on Radio Controlling." Mr. T. G. Carrington-Wood contributes a most helpful article on "Ship Model Control for the Tyro." The author's model and his demonstrations during last year's "M.E." Exhibition will be remembered. The general secretary of the society, Mr. C. H. Lindsay, has sent an article with diagrams of "A Transition Modulator," and Vice Admiral J. W. S. Darling, C.B., contributes a most interesting account of the "Early Experiments

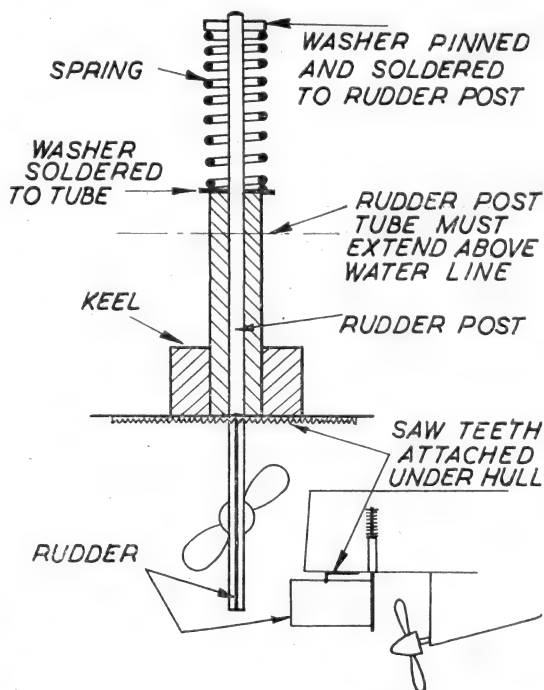
with Wireless Controlled Boats in the Navy." Finally, Mr. Nikola Nikolic of Yugoslavia sends a short article with diagrams of "A Relay Selector." These articles together with the account of the A.G.M., the chairman's message, and announcements, make this an issue which will be appreciated by all interested in the radio control of boats.

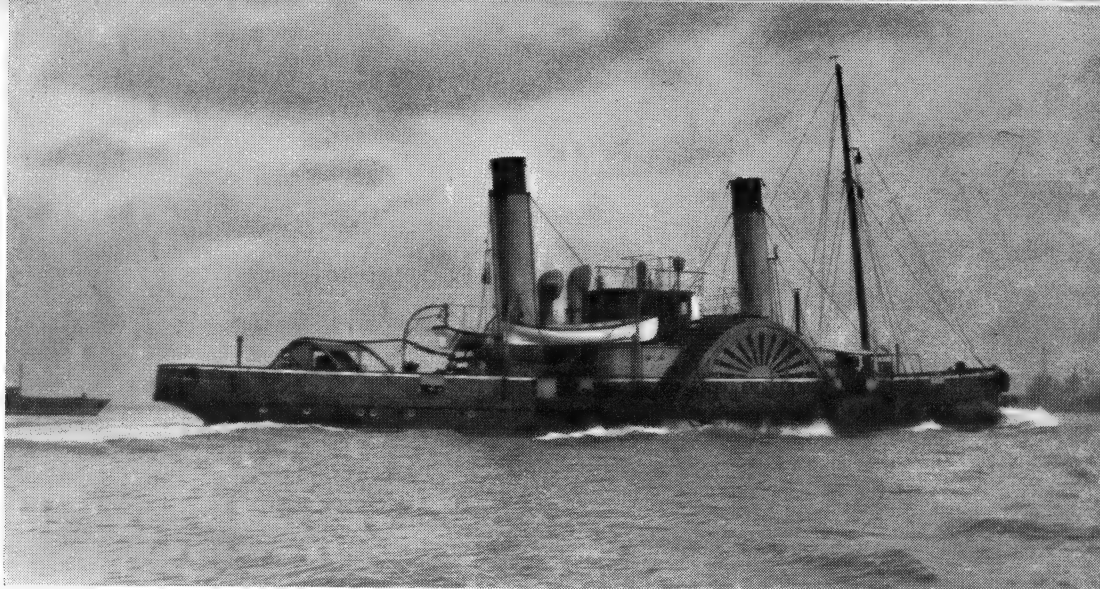
10/ hints...

Rudder With Concealed Adjustment

sent in by J. A. Briggs

This month's "hint" is making a boat's rudder adjustable without an unsightly tiller appearing on deck. First, the rudder post tube is cut off above the waterline and a washer soldered to the top—the rudder post itself projecting above the top of the tube by about $\frac{1}{2}$ in. to 1 in. A suitable coil spring is then threaded over the rudder post. This spring is compressed between the top of the tube and a washer at the top of the rudder post. The spring will draw the rudder up against the bottom of the hull. A "saw tooth" arrangement is fixed to the hull so that the rudder rests on it. The rudder can be moved to the required angle by pulling it out against the spring and turning it. The spring will hold the rudder against the "saw teeth" at the required angle.





H.M. Tug "Volatile," one of the oldest Naval tugs in commission

Naval Photograph Club

BY P. A. VICARY

SOME of the veteran paddle tugs in use at the Naval dockyards will eventually be replaced by new diesel-electric paddle tugs which are to be built for the Admiralty. The first two of seven tugs ordered will be laid down at Renfrew and will be named *Director* and *Dexterous*. The Admiralty stated that it had been found by experience that paddle-driven tugs were the most suitable for moving aircraft-carriers and other large warships through dock entrances and in the confined waters of dockyard basins. To enable them to operate under the overhanging side of aircraft carriers, the new tugs are being built with hinged masts and squat funnels and a raked back stem. The tugs will be 145 ft. long with an extreme beam over the paddle sponsons of 58 ft. They will be equipped for fire fighting and will have a 150-ton-per-hour pump in the motor room.

The last paddle tug to be built for the Admiralty is the *Pert*, completed in 1916. There are ten paddle tugs older than the *Pert*. Veteran of these is the *Volatile* at Portsmouth, built at Glasgow as the *Volcano* in 1899. She is a steel ship of 700 tons, 144 ft. long, 27 ft. beam, and her horse power is 1,250. *Advice* and *Cracker*, which are sister ships to the *Volatile*, were built in 1899 and are now at Sheerness and Chatham. *Energetic* and *Industrious* both built in 1902 are stationed at Gibraltar and Devonport respectively, and are similar in appearance to the *Volatile*. *Sprite* and *Grappler* are two later tugs which may be on the list for replacement.

A new type of American naval vessel, a "carronade," has been put into commission. The type of vessel has been named after the old British naval short-range gun. The vessel is designed to give close-in fire support to troops.

A Canadian naval task group has been visiting this country in connection with the Canadian Defence College tour of the United Kingdom. The ships are the aircraft carrier *Magnificent* and the destroyers *Haida* and *Micmac*, and were operating from Portsmouth.

A new training squadron has been formed in which cadets and midshipmen of the Royal Naval College, Dartmouth, will undertake training before joining ships of the Fleet. The ships are the destroyer *Carron* and the fast frigates *Venus* and *Vigilant*, and the Fleet minesweepers *Jewel* and *Acute*.

H.M.S. *Vengeance*, the light fleet carrier which has been on loan to the Royal Australian Navy since November,

1952, is returning home to the Royal Navy this summer. She will be replaced in the R.A.N. by the new carrier H.M.A.S. *Melbourne*, which has been completed at Barrow.

The aircraft-direction frigate *Chichester* has been launched from Fairfield's yard on the Clyde. The vessel will be powered by Admiralty standard-range diesel engines. Her main armament will consist of two 4.5-in. guns and two smaller guns.

H.M.S. *Highburton*, the first of the coastal minesweepers to be powered by the Napier Deltic lightweight diesel engines, was accepted by the Royal Navy from the builders, Messrs. J. I. Thornycroft & Co., of Southampton.

H.M.S. *Leopard* is the third anti-aircraft frigate of the "Lynx" class to be put afloat. She was launched at Portsmouth by Princess Marie Louise, and is the first warship to be launched from Portsmouth since the war. She will not present a very pleasing appearance when completed, as she will have two tall lattice masts with the diesel exhausts passing up through them. She will be armed with twin 4.5 in. guns in two small turrets fore and aft with Staag 40 mm. superfiring the after one and a squid right aft.

As some of the new small craft are delivered to the Navy they are being put into reserve. They present a curious appearance—rather like a Noah's Ark. Instead of being cocooned in plastic, they have a wooden house-like structure built right over them. A large number of these vessels have been laid up in Haslar Creek and will await the completion of the extension to the boat sheds at H.M.S. *Hornet* (see SHIPS AND SHIP MODELS, January, 1955), when they will go ashore under cover. History seems to repeat itself inasmuch as during the Crimean War large numbers of gunboats were built and, at the close of hostilities, presented a problem for maintenance. Eventually this problem was partly solved by hauling the vessels up on to the slips in the gunboat sheds which are still in use at H.M.S. *Hornet*.

The new United States submarine *Albacore* is claimed to be the fastest submarine afloat, with a greater turn of speed than the *Nautilus*. She is claimed to be so fast that she has to be guided by airplane controls! She is completely streamlined and has upright fins at the bows for underwater manoeuvring, and a very narrow conning tower.



BY LAURENCE DUNN

No. 20: The Canadian

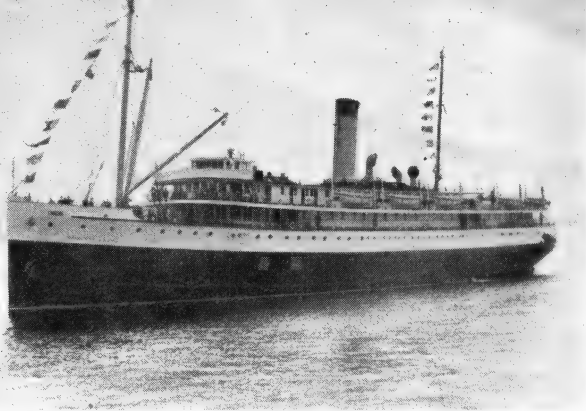
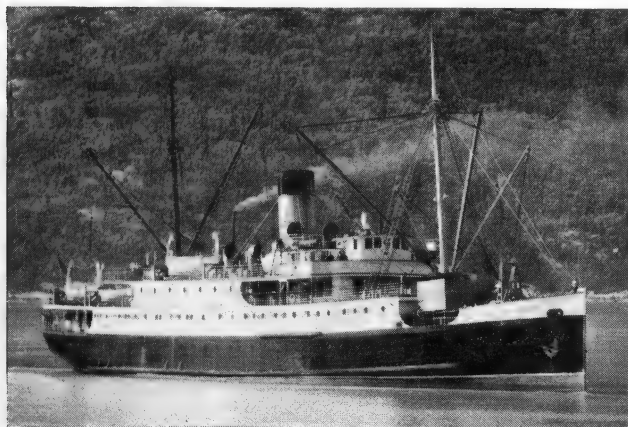
THE recent delivery of the m.v. *Princess of Vancouver* followed on June 22nd by the royal launching of the *Empress of Britain* have served as reminders of the vastness of the C.P.R. organisation, one which embraces not only sea and rail, but also air transport, as well as many other interests.

Heading its three separate fleets of ships is the trans-Atlantic one, which comprises three passenger and seven cargo liners in service. These will be joined next spring by the new *Empress of Britain*, which is the first of a pair—each of 26,000 tons gross—on order from Fairfields. A year later she will be joined by her sister, as yet unnamed.

Besides operating a number of vessels on the Great Lakes and one on the Canadian east coast, the company has a most interesting and important fleet engaged in British Columbian waters, one which includes some of the finest cross-channel passenger ships ever built. The following are the company's main Canadian coastal services, together with the ships which will be normally employed on them during the present summer season. It should be remembered, however, that on occasion ships may be temporarily switched from one route to another.

(a) Most popular and important is that known as the Triangle Route, which links Vancouver, Victoria and Seattle—a distance of 164 miles—on which the two pairs of sisters, *Princess Elizabeth* and *Princess Joan*, *Princess*

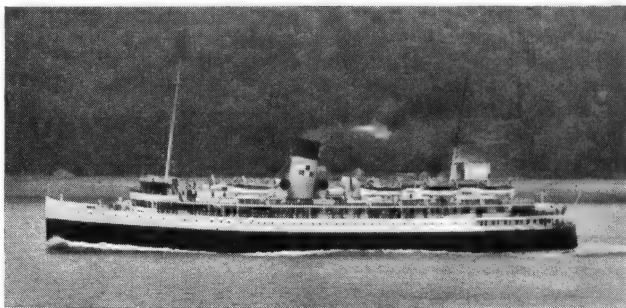
The 16-knot "Princess Norah" employed on the shorter Northern service to Prince Rupert



S.S. "Princess Louise" employed on the 1,000-mile run from Vancouver to Skagway, Alaska.

Marguerite and *Princess Patricia*, are normally used. Between the first two ports there are two sailings a day in each direction, both summer and winter, while on one of these the ship continues on to Seattle. The total steaming time to the latter is just over eight hours, not counting the brief half-way stop at Victoria.

(b) During the summer the first two ships named also



S.S. "Princess Helene" employed on the east coast service in the Bay of Fundy

operate between Victoria and Port Angeles, 25 miles to the south, making several trips each day.

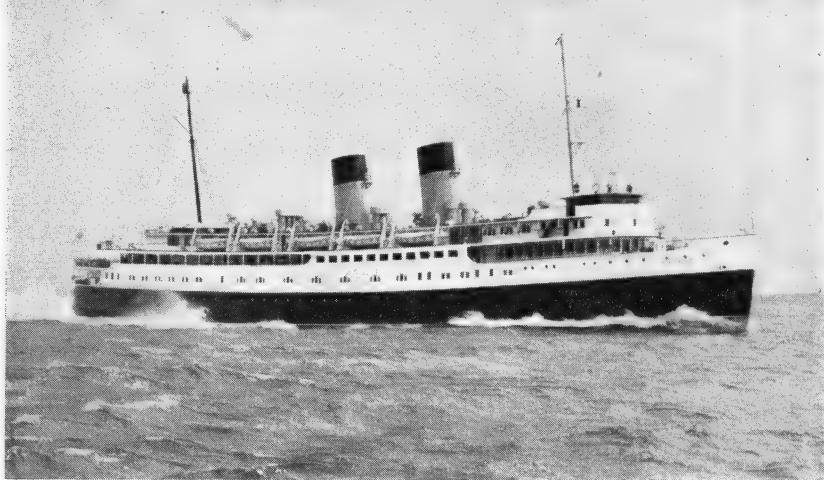
(c) Between Vancouver and the holiday resort of Nanaimo situated 41 miles away to the west, on Vancouver Island. This crossing takes two and a half hours and is made several times daily by the *Princess of Nanaimo* and *Princess of Vancouver*. Until the recent delivery of the latter the *Princess Elaine* was also used on this and other short routes in the vicinity, but details of her present operations are not available.

(d) This is maintained by the little m.v. *Princess of Alberni*, 538 tons, between the port of Victoria, located on the southern tip of Vancouver Island, and others along its western coast. The northern terminal on this run is Chamiss Bay (225 miles), which is reached after some two dozen intermediate calls have been made. Outwards this trip takes about three and a half days, but the return passage takes only about a day, owing to the very few stops made.

The remaining West Coast services involve considerably

Right: "Princess Marguerite,"
a turbo-electric ship, has a speed of
23 knots

Below: S.S. "Princess Elaine,"
carries day passengers between
Vancouver Island and the mainland



Pacific PRINCESS ships

greater distances, the longer being the Alaskan one between Vancouver and Skagway, 1,043 miles, on which calls are also made at Prince Rupert and two or three other ports. The *Princess Louise* is employed on this and makes two or three sailings a month during the summer season (May-September), doing the round trip in nine days. Supplementing this service is another maintained all the year through by the *Princess Norah*, which makes weekly sailings between Vancouver and intermediate ports to Prince Rupert, some 535 miles to the north.

Besides these passenger routes there is also one for freight only between Vancouver and Skagway, on which the s.s. *Yukon Princess* is employed; also a freight car service between Vancouver and Nanaimo. In the past it has been customary to carry these on flat tug-handled barges, but this traffic is now dealt with at night by the newly completed *Princess of Vancouver*.

Turning to the east coast of Canada there is yet another passenger service. This is on the Bay of Fundy, where the *Princess Helene* plies between Digby on the Nova Scotian peninsula and Saint John on the mainland.

This crossing—a distance of 46 miles—takes three hours and the ship makes one round trip a day, providing an important link in the railway service between Nova Scotia and Montreal.

Turning to the ships themselves, the C.P.R. Princess fleet is as follows:

WEST COAST PASSENGER

s.s. <i>Princess Louise</i> ...	...	Built 1921	4,032 tons gross
s.s. <i>Princess Norah</i> ...	...	" 1928	2,731 " "
s.s. <i>Princess Elaine</i> ...	...	" 1928	2,125 " "

s.s. <i>Princess Elizabeth</i> ...	...	" 1930	5,251 " "
s.s. <i>Princess Joan</i> ...	...	" 1930	5,251 " "

t.e. <i>Princess Marguerite</i> ...	...	" 1949	5,911 " "
t.e. <i>Princess Patricia</i> ...	...	" 1949	5,911 " "

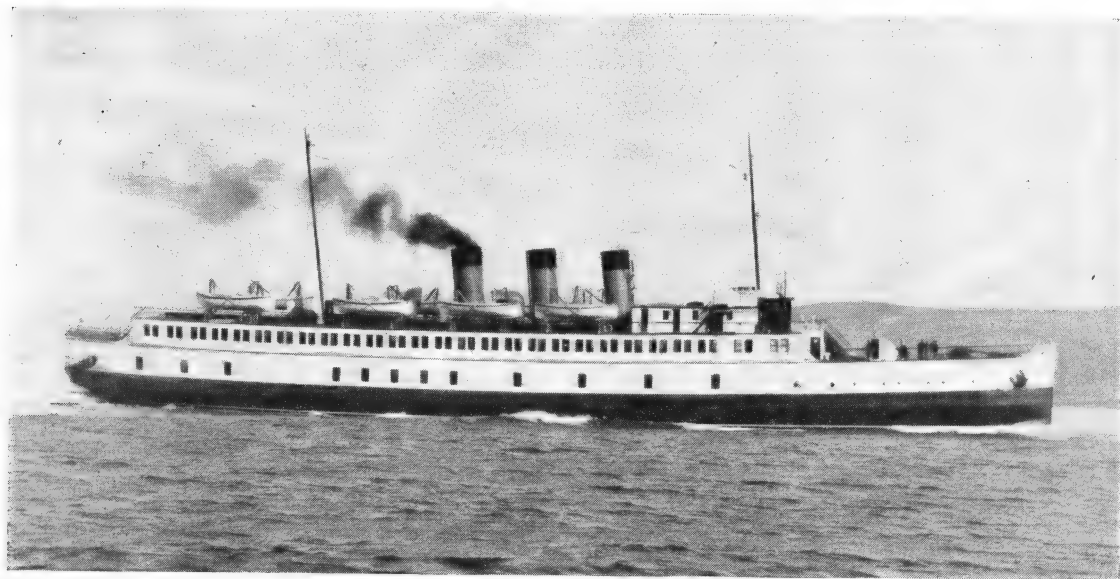
s.s. <i>Princess of Nanaimo</i> ...	...	" 1951	6,787 " "
m.v. <i>Princess of Vancouver</i> ...	...	" 1955	5,554 " "
m.v. <i>Princess of Alberni</i> ...	...	" 1945	538 " "

WEST COAST CARGO

s.s. <i>Yukon Princess</i> ...	...	Built 1946	1,334 tons gross
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EAST COAST PASSENGER

s.s. <i>Princess Helene</i> ...	...	Built 1930	4,055 tons gross
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S.S. "Princess of Nanaimo" can carry 1,900 day passengers and has garage space for 130/150 cars

The single funnelled *Princess Louise* used on the Alaskan run was built locally by the Wallace S.B. & D.D. Co., of North Vancouver. She measures 317 ft. in length, 48 ft. in mld. breadth and is fitted with a single triple expansion engine which gives her a speed of 16/17 knots. Her accommodation, spread over four decks includes 106 staterooms (228 berths), but up to 1,000 day passengers may be carried. Her layout is interesting; well suited to local conditions, it is representative of many other vessels on the Pacific Coast.

The uppermost of the passenger cabins are on the boat deck, at the extreme forward end of which is the library. Beneath, on the promenade deck, there is the traditional observation room forward, with its large deep windows. Two long rows of cabins extend from this to the smoke room right aft, the forward ones opening on to galleries from which one can look down to the main social hall below. A staircase leads down to this space which is some sixty feet long and flanked by further cabins, which, apart from one short break, continues to the stern. At a position beneath the mainmast there is another hall and the main staircase, with the writing and reading rooms to port and starboard. Dining space, galleys, etc. are on the deck beneath.

The 16-knot *Princess Norah* employed on the shorter Northern service to Prince Rupert is another single screw, reciprocating-engined ship, but like most of the *Princess* fleet was built on the Clyde—by Fairfield. Her main dimensions are 250 ft. $\times$ 48 ft. and she can carry up to 450 day passengers, berths being provided for about one third of these in 54 staterooms.

The *Princess Elaine* has triple screws and s.r. geared turbines which give her a speed of 19 knots. Built at Clydebank by John Brown, she is 291 ft. in length b.p. and it is interesting to note that she and the previous two, though differing in length, have a common mld. breadth of 48 ft. Used for the shorter local services in the waters between Vancouver Island and the mainland, she caters for day passengers only, carrying a maximum of 1,200. Apart from the MacBrayne steamer *Saint Columba* she is probably the smallest three-funnelled merchant ship in service.

The much larger *Princess Joan* and *Princess Elizabeth*,

sisters which have long been favourites on the Triangle service, measure 353 ft. $\times$ 52 ft. and are fitted with twin screw quadruple expansion engines giving a service speed of 16½ knots. Used for night crossings, they have a total of 206 staterooms apiece and can carry up to 1,100 passengers, besides about 50 motor cars for which side doors are provided. For many years the finest ships of their type on the Pacific Coast, they have latterly been rather overshadowed by the slightly larger and very much faster pair *Princess Marguerite* and *Princess Patricia*. These twin screw turbo-electric ships of 23 knots came from the same shipyard—Fairfields—in 1949, entering service in April and June, respectively. They measure 355 ft. (373.8 ft. o.a.) $\times$ 56 ft. breadth mld. and carry up to 2,000 passengers. Primarily designed for daylight service, the number of staterooms in each is limited to 51. Besides the reduction in the number of funnels another variation from earlier practice lies in the raising of the dining rooms from the main to the upper and promenade decks. Instead, main deck space is used to accommodate the steadily increasing number of cars carried on this route.

For the Fairfield-built *Princess of Nanaimo* twin screw geared turbine machinery was chosen. A 19-knot ship, she caters for up to 1,500 day passengers, besides having garage space for 130/150 cars. Her principal dimensions are length overall: 357.9 ft. and mld. breadth 62.0 ft., figures which reflect the modern tendency towards an increased beam-length ratio. On June 21st she was joined on the Vancouver-Nanaimo service by the newly delivered *Princess of Vancouver*, a motor ship of rather larger dimensions and designed to carry passengers and cars by day and railway wagons by night. Further reference to this vessel is made in "Ships in the News" on page 258.

The only remaining passenger ship in the C.P.R. West Coast fleet is the little *Princess of Alberni*, a wooden-built motor vessel with a length of 141.9 ft. Built at San Francisco as the *Pomare*, she was bought by the company about three years ago. Finally, there is one cargo ship, the *Yukon Princess*, which has replaced the *Nootka* on the Vancouver-Skagway freight service. Launched by the Pacific Drydock Co. Ltd., North Vancouver, as

(Continued on opposite page)



"Moonfleet" during her recent trials

ALTHOUGH little space was devoted to actual craft and models at the 1955 British Plastics Exhibition—held recently at Olympia, London—manufacturers convincingly demonstrated the many advantages that may be gained by using synthetic resins and plastics in ship and model construction.

FLEET REVIEWS

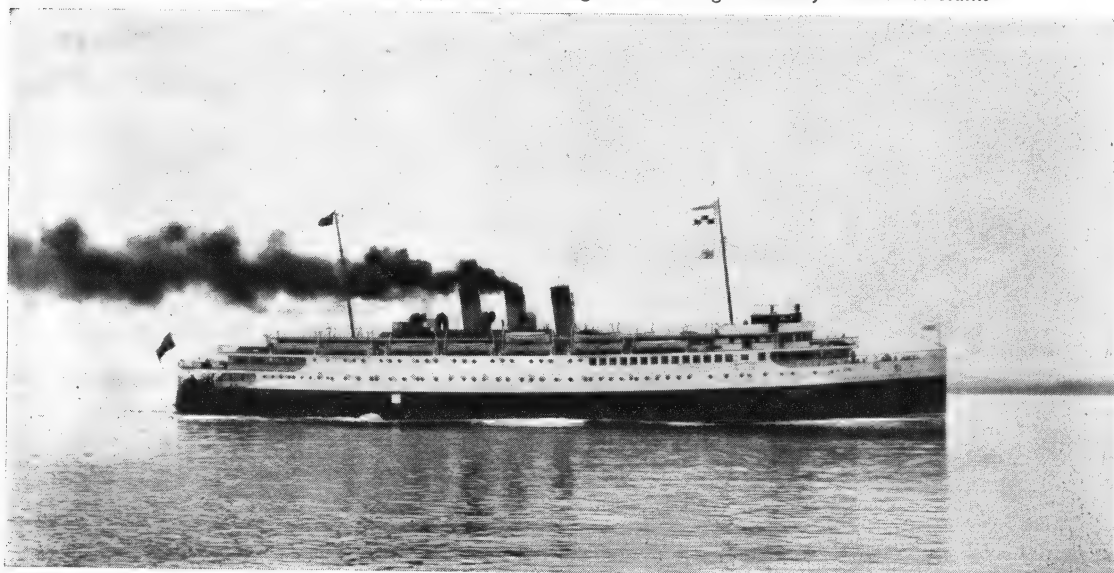
(Continued from opposite page)

Ottawa Parapet, she was subsequently bought by the Clarke Steamship Co. Ltd., Quebec, who used her as the *Island Connector* for service between Newfoundland and ports on the Gulf of St. Lawrence. Bought by the C.P.R. late in 1950, she entered her present service early the following year. A standard "B" type coaster, she measures 224.2 ft. in length o.a. and 36.5 ft. in mld. breadth. Like the rest of this design she has her reciprocating machinery aft and two pairs of kingposts,

the forward pair stepped through the bridge and the other just before the funnel.

The single East Coast ship, the *Princess Helene*, which maintains the Bay of Fundy service, was built and engined by Denny of Dumbarton. She measures 330.0 ft. × 50.5 ft. in breadth mld. and is fitted with twin screw, geared turbine machinery which gives her a speed of 19 knots. Her funnel marking shows an interesting variation from the rest of the C.P.R. fleet. Painted buff, it combines the flag borne by the trans-Atlantic ships with the black top of the Lake and West Coast vessels.

S.S. "Princess Elizabeth" is employed on the Triangle Route linking Vancouver, Victoria and Seattle



BRITISH PLASTICS EXHIBITION

The various forms of plastic sheeting which can be employed for hulls, bulkhead cladding, tanks and ducting were especially emphasised.

Principal exhibit in the boat section was British Resin Products' 13 ft. 4 in. plastic speedboat *Moonfleet*. Lighter than wood and, its makers claim, far stronger weight for weight than a conventional speedboat, *Moonfleet* is likely to become the pioneer in family plastic power craft. From the standpoint of design, she has much "eye appeal," a feature being the skill with which the new materials have been harmoniously blended so as to give the appearance of traditional wood construction. During her trials speeds of up to thirty knots were attained.

Free from purchase tax, the cost of such a boat will be brought below that of the family car.

Other craft on display included a 9-ft. sailing dinghy and, for the young enthusiast, models of police and air-sea rescue launches, and a model yacht that will not rust or lose its paint.

*Fun and Games with Radio Control

By C. F. COMPTON

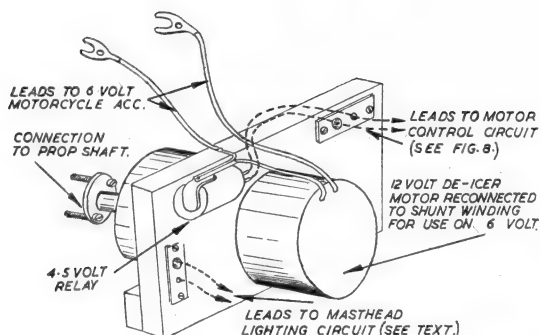


Fig. 7. Electric motor connected to circuit with plugs and socket

*Concluded from July issue, page 247

BY the time these modifications had been made, the use of an internal combustion engine had been decided upon. This became more urgent as our all-up weight rose to 20 lb., and the motor-cycle accumulators were giving under the strain of that steady 6.0 amps drain. So although electric propulsion would be retained for the remaining trials and installation of new ideas, it was necessary to reassemble the motor, switches and subsequent sockets, etc., as a unit which could be easily removed by unscrewing two screws. And the newer form of motor fitted just as easily (see Fig. 7). In practice the reverse was found to be the general procedure; when the string-pulling failed to produce the desired results the ever-reliable electrics could be "popped in" to make the trip to the pond worth while.

Having gone thus far with our installation, it occurred to us that a stop-and-start sequence might be incorporated for the electric motor and a fast-and-slow for the petrol job.

To do this a relay was added to the motor unit as shown in Fig. 8 and via plug and socket to the main relay box. An ex government unit called a remote contactor was fitted in the relay box. (I knew we would find something to put in the space we had left there.) This unit is the partner to the master contactor from which our clock-controlled pulse generator was made, as described in the earlier "Fun and Games." The remote contactor consists of a good hefty solenoid (only happy on 12 V, worse luck), which pushed a 120-tooth wheel around. Originally, an insulated disc with a 90 deg. segment removed from it switched on some gear for 15 seconds every minute. This disc was replaced with another about 3/32 in. thick, having 60 teeth upon it so arranged that the contact fingers already fitted made and broke the circuit to the main motor alternately with each operation of the solenoid.

Fig. 8 shows the modifications made to the contactor.

When the main relays were fitted a spare contact was left on each "just in case" and the starboard pair were coupled up to the remote contactor, together with 12 V from flashlamp batteries.

When a signal was sent to give starboard rudder, the contactor revolved one tooth and switched the main motors on; another signal to starboard and the motors were off again. Another miniature bulb was fitted to the mast—this time to the centre, and arranged that with the motor "on" the bulb was "out." Thus having started the motors running normal, port steering was made and two blips to starboard to ensure the motor kept "on."

When I described it to Skipper (Comm. J. Y. Torlesse, my joint conspirator), it sounded horrible, as it probably does to you now. But oddly enough in practice it is dead easy. We just give a quiet blip and then hold over for steering as usual, on both port and starboard turns, then with a single blip we can stop the boat when we wish and restart at our own time. Watching the top light makes the whole operation easy and, as it blinks away in a most amazing morse code meaning nothing at all, it makes one wonder what the effect is upon the bystander.

A rather novel experience occurred on the first try out with this stop/start control. I had just got under way and was getting the feel of things when I badly misjudged a clump of rushes in the middle of the pond. Too late, I realised I was heading straight for the rushes—bags of panic, "hard a-starboard" and . . . the motor cut out, allowing the boat to glide straight into the clump, gently rebound and swing away. Realising what had happened I left well

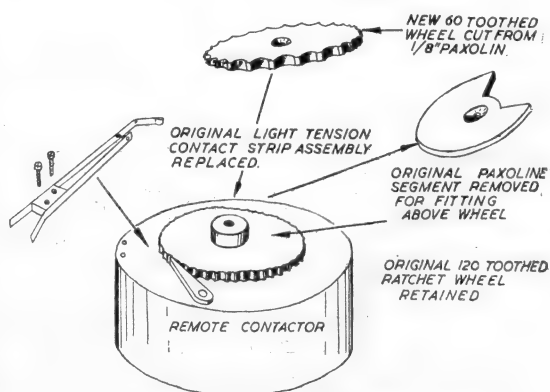


Fig. 8. Motor control unit

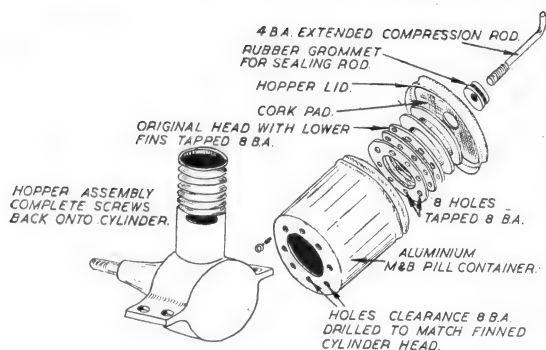


Fig. 9. Water jacket as fitted to cylinder of E.D. engine, Mark III series I

alone until *Conrad* was heading well clear of the rushes, blipped starboard again to restart the motor and nothing happened. Oh! Oh!

Of course, with rudder hard over the starboard relay circuit is broken by the limit switches, and it had to be port first, then starboard to start motor and away we went again. Had the motor not been switched off *Conrad* would have stuck fast, and I do hate wading in February!

An Ohlsson 60 fitted with two-speed ignition was next arranged as a unit to replace the electric motor, with the change-over ignition contacts coupled to the remote contactor to give "fast" and "slow." On the bench this unit, like most, went quite well though some care was needed with mixture adjustment to ensure that the mixture was not too rich for the "slow" ignition setting and not too weak for the "fast." In the boat the trouble began.

First, was oiling-up of the ignition contacts, which were packed in a rather small box around the crankshaft. A couple of holes at critical points cleared this up. When the motor did perform, as it usually would once per outing, a lovely clean fast run was made and control by radio was a real joy. But each time, after about three minutes, the smoke from inside the boat equalled the exhaust and when one spell of overheating turned the plug a nice(?) copper colour we said "enough!" Fan and ducted cooling were tried, but obviously, watercooling was the only way.

About this time the E.D. boat had just completed its wonderful cross-channel trip, and the E.D. Mk. V engine would have been the answer, but the pocket was nowhere as deep as that. However, the Ohlsson was "swapped" for an E.D. Mk. IV and this engine sent to the makers for a pukka watercooling job upon it.

In the meantime an E.D. Mk. III was borrowed from a very trusting friend, and an aluminium canister was fitted as a hopper watercooling jacket as shown in Fig. 9. The finned head was retained unaltered, so that my explanations when returning could be kept to the minimum, with the "hopper" held to the lowest fin with eight 10-B.A. screws. The compression screw was replaced with a long rod

extending through a rubber grommet in the screw-on lid of the canister. Some difficulty was experienced here due to vibration, but this was overcome with the Simmonds nut and spring washer (shown in the sketch).

Owing to the normal "mucky" running of diesel engines an exhaust pipe was absolutely necessary, and material in the form of an old cycle-pump brass cylinder was turned out of a junk box. The tube was slightly flattened and the end blocked with a piece of brass screwed and soldered in. A hole was cut to pass the tube over the cylinder, held in place by the cylinder head. Fig. 10.

This "full" power boating is what we have aimed at for a few years now, and we seem to have achieved it the hard way.

Among the snags that were difficult to overcome, one concerning the "home-made" relay caused particular consternation. For weeks on end it gave no trouble; then, for no apparent reason, it packed up. It was found that a slight adjustment of spring tension put matters right. But the only possible explanation was in the variations of temperature and humidity.

Another worry was the refusal of the rudder to respond after full port was applied. As long as we stayed inside the absolute limits there was no trouble, but full port . . . and we had had it! Returning the boat to the bank (and threatening everything in it with extinction) we would find all was perfect, including the rudder which would be buzzing back and forth happily. By chance, we later used the electric motor again and the fault did not occur. So the diesel was in some way responsible!

Then by chance while trying to correct yet another failure the servo motor, though running, was not turning the rudder head. The trouble, however, was quite easy to spot. The swirl from the propeller was enough to push the rudder blade and disengage the quadrant from the worm driving wheel; this was overcome by repositioning the indicator lamp contacts so that they pushed the rudder quadrant back into mesh.

When the Mk. IV engine was received complete with watercooling, some further rearranging had to be done to find room for the header tank. This was considered easier than "plumbing" for through feeding and as soon as the engine was installed the radio packed up, so a new Rx was built and installed. But that is another tale. . .

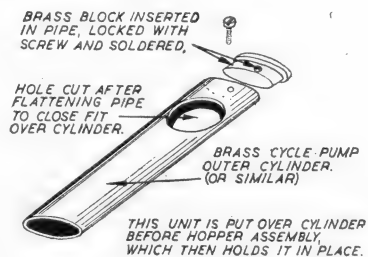
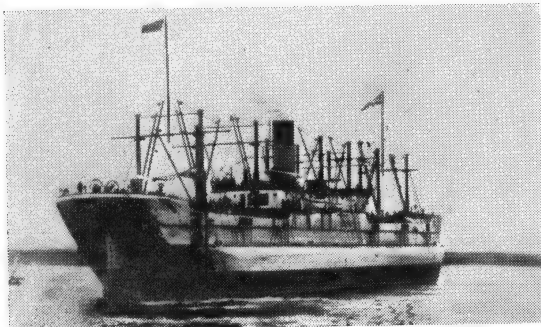


Fig. 10. Exhaust pipe for E.D. engine, Mark III series I

● Letters of general interest on maritime matters are welcomed. A nom-de-plume may be used if desired, but the name and address of the sender must accompany the letter. The Editor does not accept responsibility for the views expressed by correspondents



STILL MORE ON TURRET SHIPS

I read with great interest the excellent article on turret ships by J. W. Harries, in the April number of SHIPS AND SHIP MODELS.

I cannot see that the loss of the two Clan Line vessels has any bearing on the stability of turrets or shows in any way faults in their design.

In the case of the *Clan Ronald*, putting 100 tons of bunkers on her turret deck and 70 tons on her harbour deck was asking for trouble, as with her grain cargo she had a very small metacentric height. As the coal on the harbour deck would be used first to prevent its loss through being washed overboard it is quite possible that the coaling port (hatch) on the harbour deck was not properly secured if, indeed, it was not left open. This hatch was circular with low coamings and covered with an iron plate bolted to the coamings with numerous bolts and nuts, being made watertight with engineer's spun-yarn and red lead. I, for one, cannot imagine this was done after every few tons was shovelled below into side bunkers.

Once the vessel heeled over there was little hope for her, as it would be impossible to get at the coaling hatch.

The loss of the *Clan Gordon* calls for no comment, and to say it was due to an error of judgment is, I think, putting it very mildly.

It was surprising the number of days it was possible to walk on the harbour deck—and the hazards involved were not from the sea, but from the possibility of a disgruntled cook "accidentally" choosing the wrong moment to dump a bucket of galley refuse over the side.

Built by the mile they may have been. But they were in some ways a shipowner's dream and a mate's nightmare. It would be interesting to know just how many miles of turrets were built; probably ten or twelve.

The accompanying photograph is of s.s. *Torrington*, of about 9,500 tons d.w., built about 1906. With her six twin sampson posts and numerous winches she could discharge her cargo in very good time.

There is a large model of this steamer in the ship room in the National Museum of Wales, at Cardiff; also one of

another turret ship belonging, I think, to the Cardiff Hall Line.

Regarding deck water, with a turret ship it might tend to lessen the rolling, but should she be loaded in such a manner to give her a very small metacentric height I would not welcome the weight in the position shown on page 122.

Turrets like all vessels rolled heavily if too stiff, but not otherwise.

Winscombe, Somerset.

ANTHONY STARKEY,
Master Mariner.

THE "LOUISIANA"

I refer to the letters of Mr. Stanley J. Williams and of Mr. P. Andrews in the November, 1954, and March, 1955, issues respectively.

As built, *Louisiana* carried a small stack at the after end of the midships superstructure as mentioned by Mr. Andrews, and this carried the exhaust heat boiler for accommodation heating, which may have given rise to the suggestion by Mr. Andrews that the stack is for the heating boiler only.

Louisiana is—or was when built by the Ardrossan Dry Dock and Shipbuilding Co. (as it then was)—a three-island ship with five holds and two masts, the main being stepped between Nos. 4 and 5. One can, therefore, hardly see how the exhausts can be carried up the mast unless some very drastic alteration has taken place. I saw this ship pass here a year or two ago and she looked like her old self.

Berwick-on-Tweed.

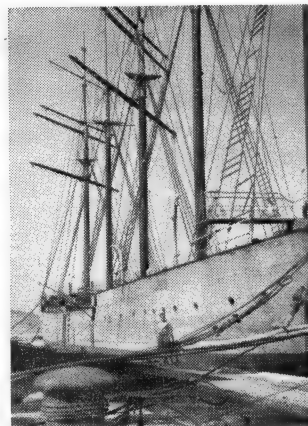
J. ARTHUR BUTTERS.

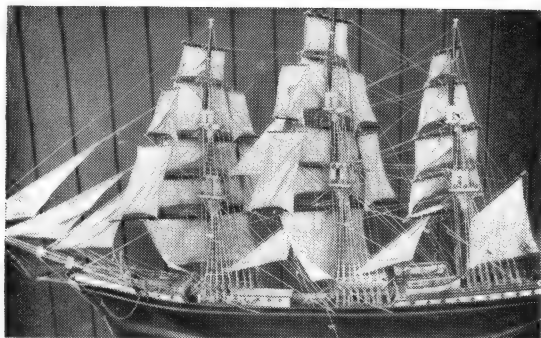
"A TALL SHIP"

I have just read the article "A Tall Ship" by Desmond Wettern and enclose a photograph (reproduced herewith) which may be of interest.

It was taken in 1948 at Gibraltar when my friend and I were crewing on a Fairmile B and put into Gibraltar for a few days. I think you can get some idea of the sorry state of this once-fine vessel.

JACK N. QUINCEY.
Hastings.





ODDS-AND-ENDS MODEL

The photo shows a model I built some 30 years ago. It was nearly 5 ft. overall. Some of the models shown in *The Model Engineer* are indeed beautiful but one needs to be an engineer (and a skilled one at that) to attempt anything like them. This model was built entirely from odds and ends and at very little cost (in those days)—and as I spent some years in the old windjammers over half a century ago it seemed to come natural to me. The only tools used were: plane, chisel, spokeshave and gouge, pocket knife, shoe-maker's rasp (the most useful tool of all) sandpaper and elbow grease. The hull is a solid block of wood. Forecastle and poop built of solid on the deck and a thin strip of wood for bulwarks round the well deck. Railings round fore-castle and poop are stout household pins with stout thread clove-hitched on each pin. One top and one half-way down, and painted white. A wood keel was bradded to bottom of hull. All blocks and deadeyes were made from beech dowelling. Four lifeboats $4\frac{1}{2}$ in. long. Two, hung in davits, were dug out from solid, and thwart and knees etc., fixed in. Two on skids under main rigging are dummy, being sheeted up with canvas. Steering wheel was built up from $\frac{1}{8}$ in. dowel for hub, V shaped groove filed in circumference. Eight match-sticks with square points glued in at equal distances for spokes. Two narrow cardboard washers glued, one each side of the spokes, to form outer rim of wheel. This was filled in between with putty and finally shaped up with small files, etc. and stained mahogany. Anchors roughly cast in lead and filed to shape. Stocks were 3 in. nails. Port-holes are brass boot eyelets. The life-buoy hung on poop rails is an eyelet from a tennis shoe. Sails were cut from an old shirt which had a blue stripe in it to imitate sail cloth widths. Figurehead of lady's head and bust roughly carved in wood, modelled over in putty and enamelled white. Anchor cables formed from brass wire formed round an oval piece of wood and joints soldered. With a magnifying glass lots of good detail can be seen. I enjoyed every minute building it—which took me nearly two years. As I am now an old-age pensioner and mostly a chimney-corner ornament, I am building another model which I intend to be even better for detail.

Huddersfield.

E. GOULDEN.

HULL MEASUREMENTS REDUNDANT?

In "Water-Nymph" Mr. H. B. Tucker has produced a very interesting design which will appeal to many. As an example of a beautifully-balanced design it is very instructive. From the registration figures given it appears that the 50-800 Marblehead or M-Class is the most popular in the U.S.A. with the sail-area classes, 1,000 and 600 sq. in., coming next in popularity.

Apart from any advantage there may be in the fixed

over-all dimension of 50 in., which makes for convenience in transport by a small car, I hold that the hull measurements are redundant. Suppose the hull measurements (length and garboard angle) were discarded, what sort of hull would Mr. Tucker design for a pure 800 sail-area class? The plumb stem and stern would not be essential and no doubt there would be overhangs, but not excessive overhangs for L.W.L. would not be measured.

I know that Mr. Tucker does not favour a pure sail-area class, but the popularity of such classes in the U.S.A. suggests that there is something in the idea. Mr. Tucker should make a draft design for an 800 sq. in. model, and I suggest that it will be a graceful edition of "Water-Nymph." Free from all hull restrictions, a designer could experiment with biscaph or triscaph. I avoid the common mis-use of the word "catamaran" which is Tamil for a raft of tied logs used at Madras. Clynder.

JOHN A. STEWART.

BETTER THAN BRITISH

For some time there has in your magazine been a lot of correspondence on the subject of modelling modern naval vessels—no doubt inspired by the publication of Mr. Ough's plans.

I would now like to make a case for what appears to me to be a rather neglected subject for the British warship modeller. I refer to the warships of the modern United States Navy. From the model makers' aspect these ships—the destroyers in particular—have many advantages over the British warship, principally: (1) No ship-side ports, making a stronger hull with no holes for the water to get through. (2) Pole or tripod masts—no flimsy, easily-damaged lattice masts. (3) Only one boat on most destroyers. (4) Enclosed wheel-houses, no intricate, easily-damaged details of gyroscopes, radar plots, etc. (5) Sleek-looking cowl-topped funnels.

The only big disadvantage is that all the modern American destroyers are flush-deckers, calling for some care in getting the sheer just right. There is, however, still plenty of intricate detail work to be done, so it's not a question of laziness.

I am at present engaged on a 5 ft. 3 in. model of a radio-controlled American destroyer, my aim being to make a good-looking, robust model which is out of the ordinary. So far as looks are concerned I think the U.S. destroyers leave ours standing. There is plenty of scope in the armament, too.

Let's hope this letter may jog some of our warship modellers out of the rut they've been in for years and stem the apparently never-ending stream of "Javelins."

I should like to get some U.S. destroyer plans, but I am managing quite nicely so far on photos from newspapers, personal observations and, mainly, "Janes Fighting Ships."

Wallasey, Cheshire.

H. V. YOUNG.

SHIP ON THE HALF-PENNY

I have in my possession a South African halfpenny dated 1949—photograph reproduced herewith—on the reverse of which there is a ship. Would it be possible to give me, or publish in *SHIPS AND SHIP MODELS*, any information concerning it, as I feel there must be an interesting story behind it?

Chilwell.



E. DAY.

news from the clubs...



MODEL YACHTING ASSOCIATION

This year's "A" Class regatta, which is to commence Sunday, August 7th, at Fleetwood includes, for the first time for six years, the international competition for the "Yachting Monthly Cup" which has been returned to the M.Y.A. by the United States of America. The Wing & Wing Cup for the fastest run downwind has also been returned and it will be awarded this year. It is not, however, proposed to stage an open water race this year.

Briefly, the programme of the regatta is that the British Open "A" Class Championship, which is open to overseas competitors, will commence sailing on the morning of Sunday, August 7th, and will continue until the following Friday evening or Saturday morning; a first round for the M.Y. Cup will then be sailed on the Saturday afternoon with the finals on Sunday, August 14th.

The British boat to challenge for the Y.M. Cup will be nominated by the regatta committee after the completion of the British Championship.

A dinner-dance has been arranged for Wednesday evening, August 10th, in the Marine Hall, Fleetwood.

Hon. Secretary: VICTOR F. WADE, 87 Stonyhill Avenue South Shore, Blackpool.

MODEL POWER BOAT ASSOCIATION

The following are the regattas for August:

Date	Club	Venue	Start
1st	Crosby	at Coronation Park, Crosby.	
7th	Kings Lynn	at Bennetts Farm, Watlington.	11.30
14th	Southampton	at Ornamental Lake, Southampton Common.	11.30
21st	S. London	Brockwell Park, London, S.W.	11.00
28th	M.P.B.A.	Grand Regatta at Victoria Park, Hackney, E.9.	10.30

There will be radio control events at the regatta on August 1st, and on August 21st the regatta will be devoted entirely to radio control.

Hon. Secretary: J. H. BENSON, "Holford," 25, St. Johns Road, Sidcup, Kent.

GUILD OF MODEL SHIPWRIGHTS

A meeting of the guild was held at the studio-workshop of Mr Norman A. Ough on June 3rd. After the usual business had been dealt with Mr. W. H. Hiney, F.R.S.A., read a paper on "The Deal Lugger—Preliminary Research." This proved to be most interesting and was followed by an animated discussion. The date of the next meeting has been arranged to coincide with that of the forthcoming "Model Engineer" Exhibition.

Hon. Secretary: LAURENCE A. PRITCHARD, M.I.N.A., 24, Gordon Avenue, Southampton. Tel.: Southampton 54412.

Y.M. 6-m O.A. & SOUTH LONDON M.Y.C.

The following are the events for August:

Date	Class	Event	Start
Sat. 6th	36-in.	Open Sweepstake.	2.30
" 13th	M	Open Sweepstake.	2.30
Sun. 21st	36-in.	Open Regatta.	10.30
" 28th	A	Handicap Race.	2.00

Sailing water: Rick Pond, Home Park, Hampton Court.

Hon. Secretary: N. D. HATFIELD, 132, Westborne Grove, Westcliff-on-Sea, Essex. Tel.: Southend-on-Sea 46925.

HOVE AND BRIGHTON MODEL YACHT CLUB

The fixtures for August are as follows:

Date	Class	Event
Sun. 7th	M	Clapham M.Y.C. at Hove.
Sun. 7th	A	British Open Championship at Fleetwood.
Sat. 13th		
Sun. 14th	A	International Race, Y.M. Cup at Fleetwood.
" 14th	10-r	Open Race: Hove Corporation Trophy.
" 21st	36-in.	Vickers Armstrongs M.Y.C. at Hove.
" 28th	10-r	Highgate M.Y.C. at Hove.
Sailing water: The Lagoon, Kingsway, Hove.		
Hon. Secretary: F. JENNINGS, Ardingly College, Haywards Heath, Sussex.		

POOLE MODEL YACHT AND POWER BOAT CLUB

The following are the fixtures for August:

Date	Class	Event
Mon. 1st	M	Robert Cup.
Sat. 6th	Juniors	
Sun. 7th	M	Eliminator National.
Sat. 13th	Power	
Sun. 14th	M	Eliminator National.
Sat. 20th	Power	
Sun. 21st	10-r	Juniors.
Sat. 27th	Juniors	
Sun. 28th	M	Eliminator National.

Hon. Secretary: W. E. L. PERRETT, 46, Cranbrook Road, Parkstone Dorset. Tel.: Parkstone 3420.

HAMMERSMITH SHIP MODEL SOCIETY

The August meetings will be held at 7.30 p.m. at "Westcott Lodge," Lower Mall, W.6.

Tuesday, 2nd "Scrimshaw Work."—A talk by A. Spraggon.

16th Club Night.

Hon. Secretary: H. J. COSTER, 98, Craven Park, Harlesden, N.W.10.

THE THAMES SHIPLOVERS' SOCIETY

A visit has been arranged for the afternoon of August 27th to the Union Castle liner s.s. *Braemar Castle*. These visits are for members only and parties are strictly limited.

Full particulars from the Hon. Secretary: ERIC C. RANDELL, 24, Winter Avenue, East Ham, E.6.

next month

The September issue of SHIPS AND SHIP MODELS will contain in addition to the usual features

THE TRADING SMACK "J.N.R."

A pictorial description of this old West Country vessel has been prepared by the well-known writer on sailing ships—D. R. MacGregor.

NORMAN OUGH'S DRAWINGS OF NAVAL VESSELS

An accurate and finely detailed drawing of a submarine as one of the series of drawings of these interesting craft which Norman Ough is working on.

MODELLING THE "RHODESIA CASTLE"

An instructive account by Mr. McNarry of the construction of the $\frac{1}{16}$ in. scale model he made of this fine Union Castle liner.

The story of the "Loss of the Northfleet," which we planned to publish in this issue had to be held over, but will appear in September.

ERRATA

The caption to the picture on page 226 in our July issue should have read: m.v. "Vipya" being launched at Monkey Bay in 1944.

The caption to the picture on page 224 in our July issue should refer to Faslane as being on the Garelock and not on Loch Long.

We apologise to our readers for these errors.

A Real Test of Yachts under Radio Control

TO investigate the racing of model yachts under radio control it is proposed to organise a series of races to take place in Poole Harbour, if possible in the first week of October this year, with the assistance of local yacht clubs. Poole Harbour can provide water sufficiently sheltered for "A" Class yachts, and there is space to test the real possibilities of racing under radio control.

Hitherto such racing has largely been a case of steering round buoys, the legs of the course being too short to employ the tactics and technique of full-size racing. The proposed courses will be sufficiently long to ensure a good beat to windward, the establishing of overlaps at marks, followed by off-the-wind sailing, reaching and running, with perhaps a final beat. To enable helmsmen to be sufficiently near to get a good view of their boats and those of their opponents, craft of suitable size will be moored in the centre of the course, to take man and transmitters. The race will thus be a test of manoeuvre and tactics rather than one of eyesight.

Many would-be radio racers are deterred from experimenting because of cost and the fear of "radio interference" creating complications. In view of this Lt.-Col. C. E. Bowden, who is organising these trials, aided by Mr. G. Honnest Redlich from the radio technical side, will prepare two four-reed units that can be plugged into any two boats racing in a heat together. Thus, anyone entering the scheme can fit his "A" Class boat

with a normal reed receiver and servo mechanisms to operate sheets and rudder, having the correctly wired plug to take these "non interference" tuned reed units. It is only the reeds that have to be interchangeable. When not racing, the individual can plug in his own reed unit for normal sailing.

Four to six boats are desirable for the October trials. At present there are three boats and an almost-certain fourth boat. Anyone wishing to co-operate should write to Lt.-Col. Bowden at Waterside, Shore Road, Sandbanks, Bournemouth, who can provide the wiring plug diagram. The two special reed units will be held at Poole.

Racing will be under the Royal Yachting Association rules, and only "A" Class boats will be used, for these craft can take rough water and have proved sufficiently large to carry batteries for long stretches of sailing. No mechanical aids to steering or sheet trimming will be used, so that the true test of yacht racing is encouraged, namely the test of the helmsman's skill at rudder operation and sheet trimming during the race.

There must be a number of "A" Class boats lying idle in the country. If owners who wish to help this scheme will inform us, we will put them in touch with individuals wanting to embark on radio racing. The cost of these old "A" Class yachts must be kept low to encourage the scheme. It has been found that an "A" hull can carry radio gear without upsetting the trim.

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All correspondence relating to sales of the paper should be addressed to THE SALES MANAGER and correspondence relating to display advertisements to THE ADVERTISEMENT MANAGER.

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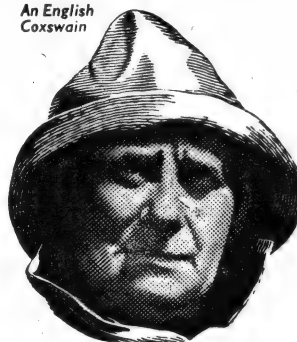
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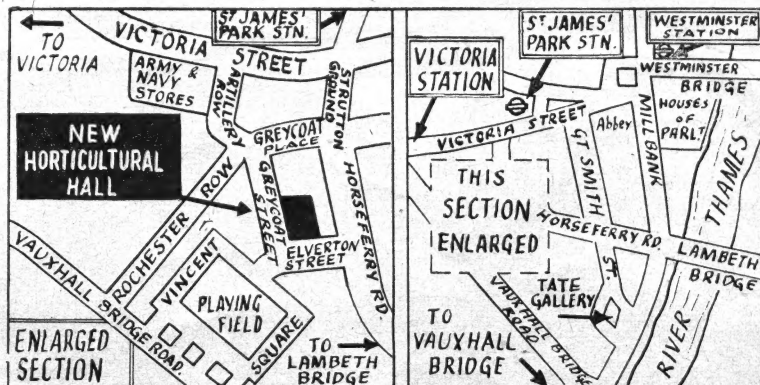
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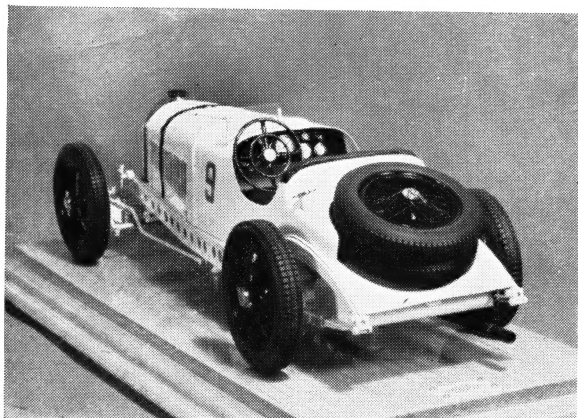
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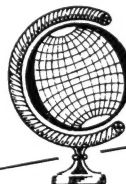


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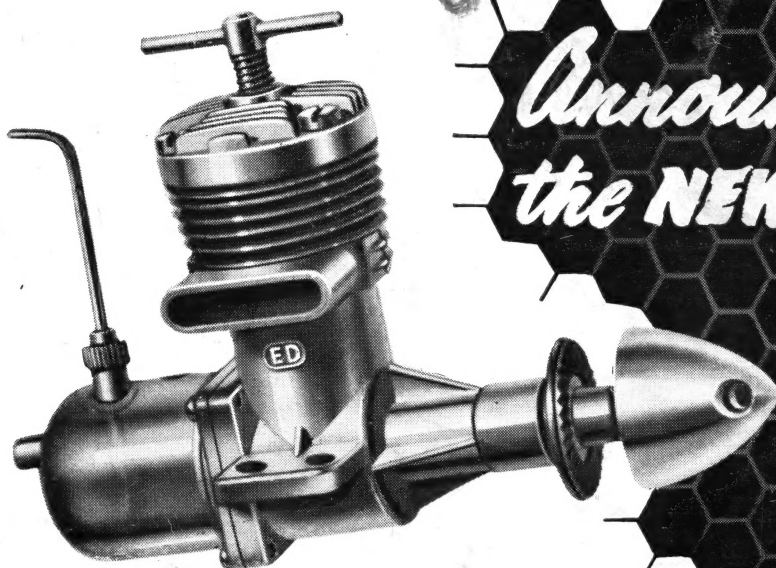
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